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## **An Archaeological Survey of the Proposed Fannin County Bridge Study Areas Fannin County, Texas**

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## An Archaeological Survey of the Proposed Fannin County Bridge Study Areas Fannin County, Texas

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## *AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED FANNIN COUNTY BRIDGE STUDY AREAS*

*FANNIN COUNTY, TEXAS*

Texas Antiquities Permit Number 7677

By:

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Principal Investigator

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805 Business Parkway  
Richardson, Texas 75081

Cultural Resources Report 2019-05  
February 11, 2019



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## ABSTRACT

North Texas Municipal Water District (NTMWD) is proposing to construct the Lower Bois d'Arc Creek Reservoir in northeast Fannin County, Texas. Due to the proposed inundation, nine bridge/culvert locations will be inundated, and new bridges/culverts will be constructed. White Hawk, which is handling the engineering for the project, contracted with AR Consultants, Inc. to evaluate the proposed bridge locations to determine if significant cultural resources are within the study areas. Prior to and during the cultural resources survey, it was thought that 11 locations would be impacted and 11 were surveyed. After the survey was complete, it was determined that locations 4A and 8 would not be impacted by this project. Even so, the survey results for these two locations is included in this report. All road improvements and new construction will take place within a study area that can vary from 140 to 300 feet wide. In total, 112.11 acres were surveyed.

The routes were surveyed on August 29-31, 2016, January 30-February 2, and May 11 2017. During the survey, four historic sites (41FN253, 41FN255, 41FN256 and 41FN257) and one site (41FN254) with historic and prehistoric components were recorded. No historic artifacts were collected; prehistoric artifacts and notes from these sites will be curated at the Texas Archeological Research Laboratory at the University of Texas in Austin. As land access on private land was only granted within the easement, the sites on private land could only be fully defined, recorded, and evaluated within these corridors. Sites found on land owned by NTMWD were recorded fully. Because of this, site 41FN257, which sits on private land, was not fully recorded.

Therefore, only the portion of the site within the project area can be evaluated, and site 41FN257 is recommended not eligible for inclusion on the National Register of Historic Places or as a State Antiquities Landmark. Sites 41FN253, 41FN254, 41FN255, and 41FN256, which were recorded fully, are also recommended not eligible for inclusion on the National Register of Historic Places or as State Antiquities Landmark.

Given the results of this survey, AR Consultants, Inc. recommends that further cultural resource investigations are unnecessary for this project, and requests that the Texas Historical Commission concur with this recommendation.

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## INTRODUCTION

North Texas Municipal Water District is proposing to construct the Lower Bois d'Arc Creek Reservoir in northeast Fannin County, Texas. Due to the proposed inundation, nine bridge/culvert locations will be inundated, and new bridges/culverts will be constructed to replace them. Because these areas are located on the edges of the proposed reservoir, each study area is in the upper ends of the watershed near small creek headwaters. Prior to and during the cultural resources survey, it was thought that 11 locations would be impacted and 11 were surveyed. After the survey was complete, it was determined that locations 4A and 8 would not be impacted by this project. Even so, the survey results of these two locations is included in this report. All road improvements and new construction will take place within study areas which vary in width from 140 to 300 feet, and total 112.11 acres.

White Hawk, which is handling the engineering for the project, contracted with AR Consultants, Inc. to evaluate the proposed bridge locations to determine if significant cultural resources are within the study areas. The study areas were surveyed August 29-31, 2016, January 30-February 2, and May 11, 2017.

The cultural resource investigation was required because North Texas Municipal Water District is a State entity and Texas Antiquities Permit Number 7677 was issued for the archaeological survey. Additionally, U.S. Army Corps of Engineers (USACE) has jurisdiction at creek crossings. Relevant federal and state legislation includes the Antiquities Code of Texas (Texas Natural Resource Code, Title 9, Chapter 191), Section 404 of the Clean Water Act, the National Historic Preservation Act of 1966, as amended (PL-96-515), the National Environmental Policy Act of 1969 (PL-90-190), the Archeological and Historical Preservation Act of 1974, as amended (PL-93-291), Executive Order No. 11593 "Protection and Enhancement of the Cultural Environment," and Procedures for the Protection of Historic and Cultural Properties (36CFR800), Appendix C. The Archeology Division of the Texas Historical Commission and USACE will review this report as part of the Section 106 process.

This report is written in accordance with report guidelines adopted by the Archeology Division of the Texas Historical Commission (THC), and developed by the Council of Texas Archeologists (n.d.). The following report presents a brief description of the natural setting of the project area, followed by a discussion of the culture history and previous investigations in the region surrounding the study areas. A chapter on the research design and methodology employed in the investigation is then followed by the results of the field investigation. The report concludes with recommendations followed by the references cited. Four appendices are included: the results of the architectural historian's review of the existing bridges; photographs showing the visual area of potential effect for the proposed bridges/culverts, shovel test descriptions for shovel tests not placed in archaeological sites, and a specimen inventory including detailed analysis of artifacts found during survey.

Administrative Information:

ARC Project Number: 160501  
Sponsor: North Texas Municipal Water District  
Review Agencies: Archeology Division of the THC, and the Tulsa District of the U.S.  
Army Corps of Engineers  
Principal Investigator: Molly A. Hall, MA  
Field Crew: Molly Hall, Nick Coleman, Joy Tatem, Joanna Suckling, Joe Motley  
Survey Dates: August 29-31, 2016; January 30-31, February 1-2, May 11, 2017  
Person Days: 14.5  
Acres Surveyed: 112.11  
Sites Recorded: 41FN253, 41FN255, 41FN256, and 41FN257 (historic), 41FN254 (historic and prehistoric)  
Curation Facility: Records and artifacts curated at TARL

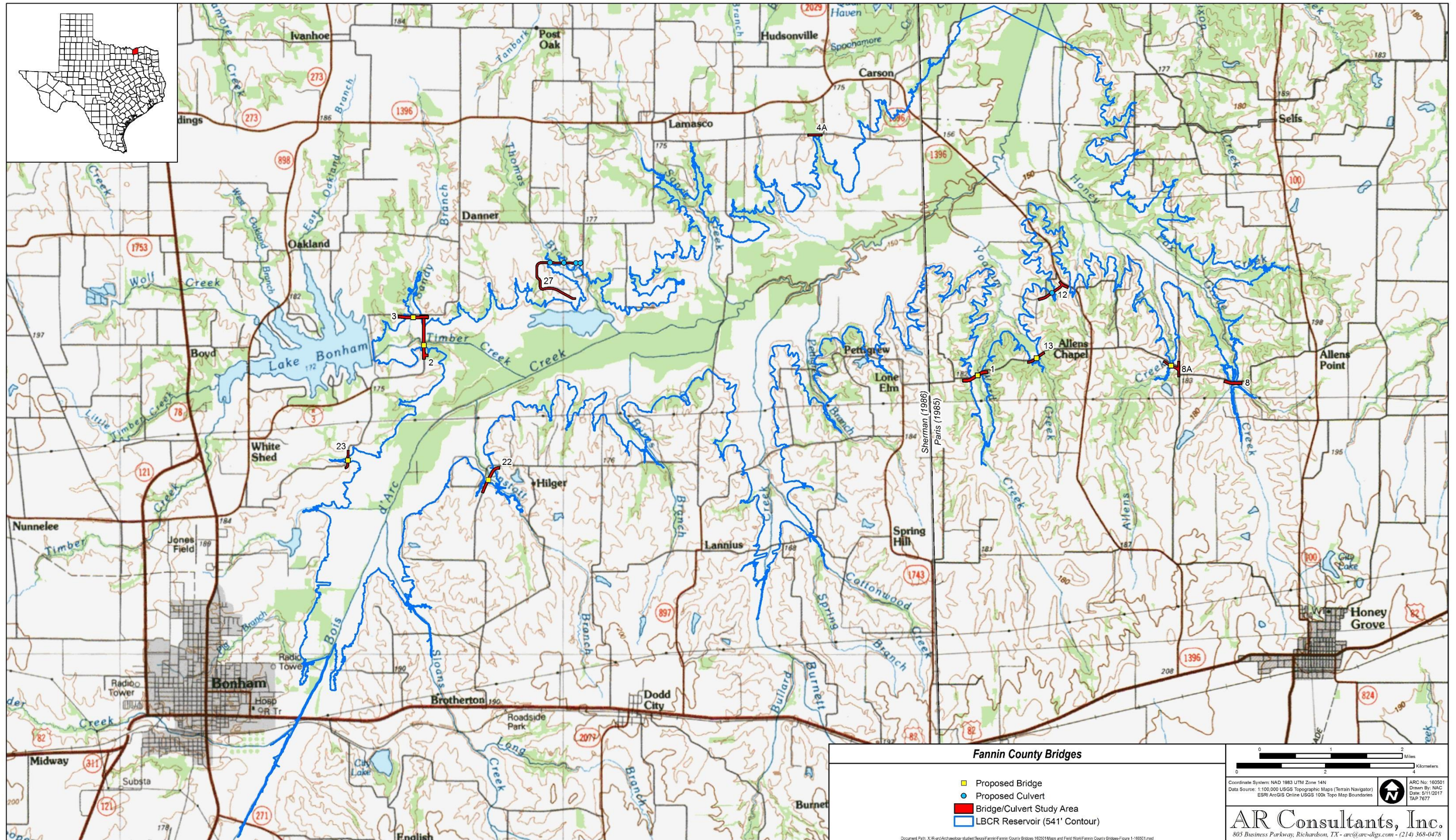


Figure 1. The proposed Fannin County bridge/culvert locations and study areas shown on 1:100,000-scale USGS topographic maps.



## NATURAL ENVIRONMENT

The project area is situated on the margin of the Northern Post Oak Savanna (to the north) and Northern Blackland Prairie (to the south) ecoregions of Texas. The Northern Post Oak Savanna is composed of rolling to nearly level plains that formed over Eocene and Paleocene-age formations, with some Cretaceous rocks to the north (Griffith et al. 2007:66). Woodlands in the Northern Post Oak Savanna are composed mostly of post oak, blackjack oak, eastern red cedar, and black hickory, though most land currently has more improved pastures. Little bluestems and other grasses are found in prairie openings (Griffith et al. 2007:66).

The project area consists of several proposed bridge crossings that span drainages in the Bois d'Arc Creek watershed; the study areas cross upland, terrace, and floodplain settings. These bridges will cross Sandy Branch, Timber Creek, Thomas Branch, Onstott Creek, Ward Creek, Yoakum Creek, Allen's Creek, and Honey Grove Creek, as well as three unnamed tributaries of Bois d'Arc Creek. All of these streams ultimately flow into Bois d'Arc Creek, which is a tributary of the Red River.

Several geological formations underlie the project area. Study Areas 2, 3, 4A, 23, and 27 are located primarily on the Bonham Formation, a Late Cretaceous-aged formation consisting primarily of mudstone and clay. Study Areas 1, 8, 12, 13, and 22 are mostly on the Late Cretaceous-aged Blossom Sand formation, composed of quartz sand that grades west into calcareous clay. Study Area 8A is located on the Brownstone Marl formation, a clay formation that also dates to the Late Cretaceous period. Quaternary-aged alluvium is mapped within Study Areas 2, 3, and 22, which cross larger Bois d'Arc Creek tributaries (Bureau of Economic Geology 1991). Four different soil profiles are found within the floodplains in the project area (Goerdel 2001). Study Areas 2, 3, and 27 are mapped within Dela loam, a series that is occasionally flooded and has a dark grayish brown A horizon up to 12 inches that transitions into a yellowish brown to very pale brown C horizon. Study Area 23 lies within the Hopco silt loam, an occasionally flooded series which has a 60-inch-thick, very dark grayish brown to very dark gray A horizon that is above an olive brown B horizon. The Elbon silty clay loam series is found at Study Areas 1 and 13. This frequently flooded series consists of very dark grayish brown silty clay loam to dark grayish brown silty clay, with a 21-inch-thick A horizon. The last floodplain soil profile in the project area is the Frioton silty clay loam series, found at Study Areas 8 and 8A. Occasionally flooded with silty clay loam throughout, 37 in of very dark gray to very dark brown A horizon is located above a very dark gray C horizon. Upland and terrace soils in the Ellis, Freestone, Hicota, Ivanhoe, Leson, Normangee, Porum, and Whakana series are mapped adjacent to the floodplains. These soils typically have shallow A horizons of varying type and hue over clayey B horizons; depth to subsoils is 4-18 in.

## CULTURAL HISTORY

The following timeline for the Native American occupation of the area relies on Mahoney (2001) and Perttula (1998, 2004):

Table 1. Cultural Chronology.

| Period                    | Dates                |
|---------------------------|----------------------|
| Anglo-American Settlement | A.D. 1815 to present |
| Historic European         | A.D. 1700 to 1815    |
| Historic Caddo            | A.D. 1680 to 1860    |
| Late Caddo                | A.D. 1400 to 1680    |
| Middle Caddo              | A.D. 1200 to 1400    |
| Early Caddo               | A.D. 1000 to 1200    |
| Formative Caddo           | A.D. 800 to 1000     |
| Woodland/Fourche Maline   | 200 B.C. to A.D. 800 |
| Late Archaic              | 2,000 to 200 B.C.    |
| Middle Archaic            | 4,000 to 2,000 B.C.  |
| Early Archaic             | 6,000 to 4,000 B.C.  |
| Paleoindian               | 12,000 to 6,000 B.C. |

The earliest occupation in Fannin County was during the Paleo-Indian period (12000-6000 B.C.) by Native Americans who made very distinctive Clovis points. Such points, generally constructed from non-local material, have been found throughout Fannin County, both in the north along Bois d'Arc Creek, and in the south along the valley of the North Sulphur River (Skinner et al. 2005; Bousman and Skinner 2007). Despite these documented finds, data on the Paleo-Indian occupation of Fannin County remains insufficient, due to the preponderance of surface scatter artifact recovery. However, Paleo-Indian occupation is thought to have lasted until at least 8,000 BP. It is thought that the lack of perennially occupied sites, the abundance of non-local cherts, and the abundance of spear points suggest that the Paleo-Indian peoples were highly nomadic, mobile hunters (Mahoney 2001:8).

Subsequent occupation during the Archaic period (6000-200 B.C.) is recognized as having three temporal divisions: Early, Middle, and Late. During all three, groups are characterized as being mobile bands that subsisted by hunting and gathering. In the Early Archaic, group territories were poorly defined and sites were either transitory sites represented by lithic scatters or were repeatedly occupied. Burned rock features occur in the Middle Archaic and indicate cooking and greater use of plant food. In the Late Archaic, it appears that group mobility was limited by an increased population density and group territories were more tightly defined. The use of local lithic material instead of exotic material tends to support this idea (Perttula 1998:17-18).

During the Woodland period, which ranged from 200 B.C. to A.D. 800 the population became more sedentary as indicated by the presence of rectangular houses, thick-walled Williams Plain pottery, and the increased presence of plant foods including domesticated corn. Gary dart points were ultimately replaced by arrow points (Perttula 2001:67) during this period. Shell-tempered pottery is found at the campsites occupied by these Late Prehistoric hunters and gatherers. Historic reports tell of Native American groups in the 1700s and early 1800s but virtually no



evidence of these groups has been recorded (Skinner 1988). Widely scattered historic Native American archaeological sites have been described well outside the study area near Emory (Jelks 1967) and Paris (Harris et al. 1965). Mid- and late-1800 Anglo American sites are present in the uplands and along the drainage valleys where settlers built houses and farmed small plots until the advent of breaking tractors allowed for the farming of the Blackland Prairie.

Fannin County, originally to be named Independence County, was formed from Red River County by the Republic of Texas Congress on December 14, 1837. It was ultimately named for a hero of the Texas Revolution, James Walker Fannin, Jr. (Carter 1885; Strickland 1930; Hodge 1966; Scott 1982). After the Civil War, Fannin County was prosperous with record growth in agricultural businesses. In 1873, the Texas and Pacific Railway built its tracks through the county. Cotton production peaked in 1920 and Lone Star Gas Company ran natural gas lines through the county in 1925. The Great Depression of the 1930s imposed economic hardship on the county's businesses and residences, and the population of Bonham steadily decrease. Today, the largest city in the county is Bonham, which is the county seat, with around 7000 residents, and Honey Grove being the second-largest with roughly 2000 residents.

### Previous Investigations

An archaeological survey of Timber Creek Reservoir (now known as Lake Bonham) recorded prehistoric archaeological sites in the Timber Creek valley west of the Study Areas 2/3 (Hsu 1968). This survey located two prehistoric sites, 41FN15 and 41FN16, which contained pottery and assorted lithic debris, and are now underwater within the confines of Lake Bonham (Jones 2008: 10). Just north of Study Area 22, an archaeological survey was conducted by Geo-Marine Inc. in 2009 as part of a larger TxDOT project to improve bridges in a multi-county area (Allday 2011). No sites were discovered during this investigation (Texas Archeological Sites Atlas [TASA] 2016).

The most relevant previous investigation to the current project was the survey work conducted by ARC for the Lower Bois d'Arc Creek Reservoir project area in 2011 and 2013 (Davis et al. 2014). The project's research design focused on three major research topics: Late Pleistocene Geomorphology, The Shifting Ecotone, and Settling Into the Region (Skinner et al. 2010). The research design developed a sampling strategy that focused on landforms likely to have been occupied prehistorically and historically. Approximately 5,000 acres were surveyed focusing on the creek channels and high potential settings. A total of 58 sites (28 prehistoric, 26 historic, and four prehistoric/historic) were recorded (Davis et al. 2014:377). Eighteen of these required more work before eligibility determinations could be made; the rest were determined not eligible for listing on the National Register of Historic Places (NRHP). Additionally, 38 standing structures were found to meet the historic-age guidelines. These were evaluated for eligibility for listing on the NRHP; none were determined eligible for the NRHP. The results of the survey demonstrated that the earliest occupation was during the Paleoindian and Early Archaic periods and that the terrace sediments were flushed out of the valley before 2000 B.C. In situ evidence of occupation during the Late Archaic and Woodland periods was sporadic. Early Caddo occupation may have occurred around A.D. 1000 and only minimal evidence of later Caddo occupation was found. The majority of the historic sites date to the late-19<sup>th</sup> to mid-20<sup>th</sup> century. Oral histories confirm that most 19<sup>th</sup>-century residences were removed to increase farm and pasture land, or were replaced by modern structures. Additionally, 156 acres of private property within the reservoir

area was surveyed in 2015, after having been denied access during the initial 2013 survey. Six sites were found within the area, three of which had been previously recorded (Perttula et al. 2016). Of these sites, three were prehistoric, one historic, and two were multi-component (Davis and Skinner 2016). Eligibility determinations for these six sites have not yet been made, but three were recommended for further work and the other three were recommend not eligible for listing on the NRHP.

#### Historic Map and Aerial Review

Historic maps reviewed prior to this project included the 1936 General Highway Map of Fannin County (GHM), the 1939 Fannin County Soil Map (FCSM), the 1949 Honey Grove, TX 15' USGS topographic quadrangle (quad), and the 1958 Bonham, TX 15' quad. Aerial photographs from 1937, 1949, 1950, and 1955 were reviewed as well. More recent images, including 7.5' quads from 1985 and aerial photographs from 1976 to present, were also reviewed. The 1939 FCSM, which was drafted with far more accuracy than the 1936 GHM, was considered the earliest map with which one might locate historic structure locations with any reliability. The 1939 FCSM showed structures in or near Study Areas 2, 3, 8A, 12, and 27 (Figure 2). Single structures in more or less these same locations were present on the 15' USGS quads in Study Areas 2, 3, 8A, and 27; at Study Area 12, multiple structures are shown along FM 1396 (Figure 3). The 1985 USGS quads show three structures southeast of the intersection of CR 2680 and CR 2610 (Study Areas 2/3), where only one structure had been shown on earlier maps; the structure farther south, along the west side of CR 2610, was still present at that time, along with a second (Figure 4a). No structures were mapped in Study Areas 8A or 12 by 1985 (Figure 4b and Figure 4c). Two structures were shown at the south end of Study Area 27 in 1985, along with two more farther west (Figure 4d). Review of historic aerial photography generally confirms these changes, with one exception: the structures shown in Study Area 12 on maps prior to the 1980s are shown outside the study area on 1950 aerials (Figure 5) and FM 1396 followed a slightly different path than it does today.

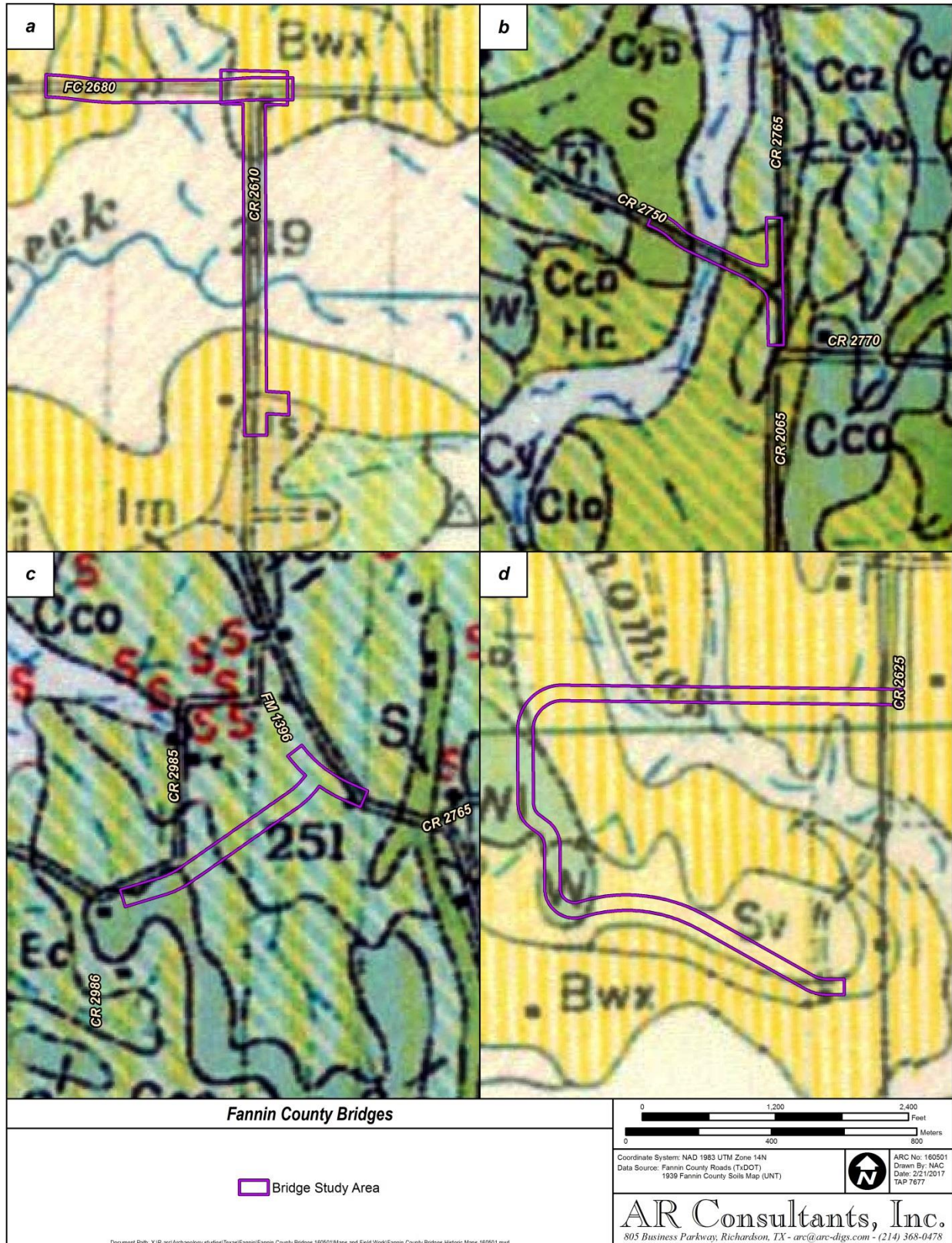


Figure 2. Study Areas 2/3 (a), 8A (b), 12 (c), and 27 (d) shown on the 1939 FCSM.

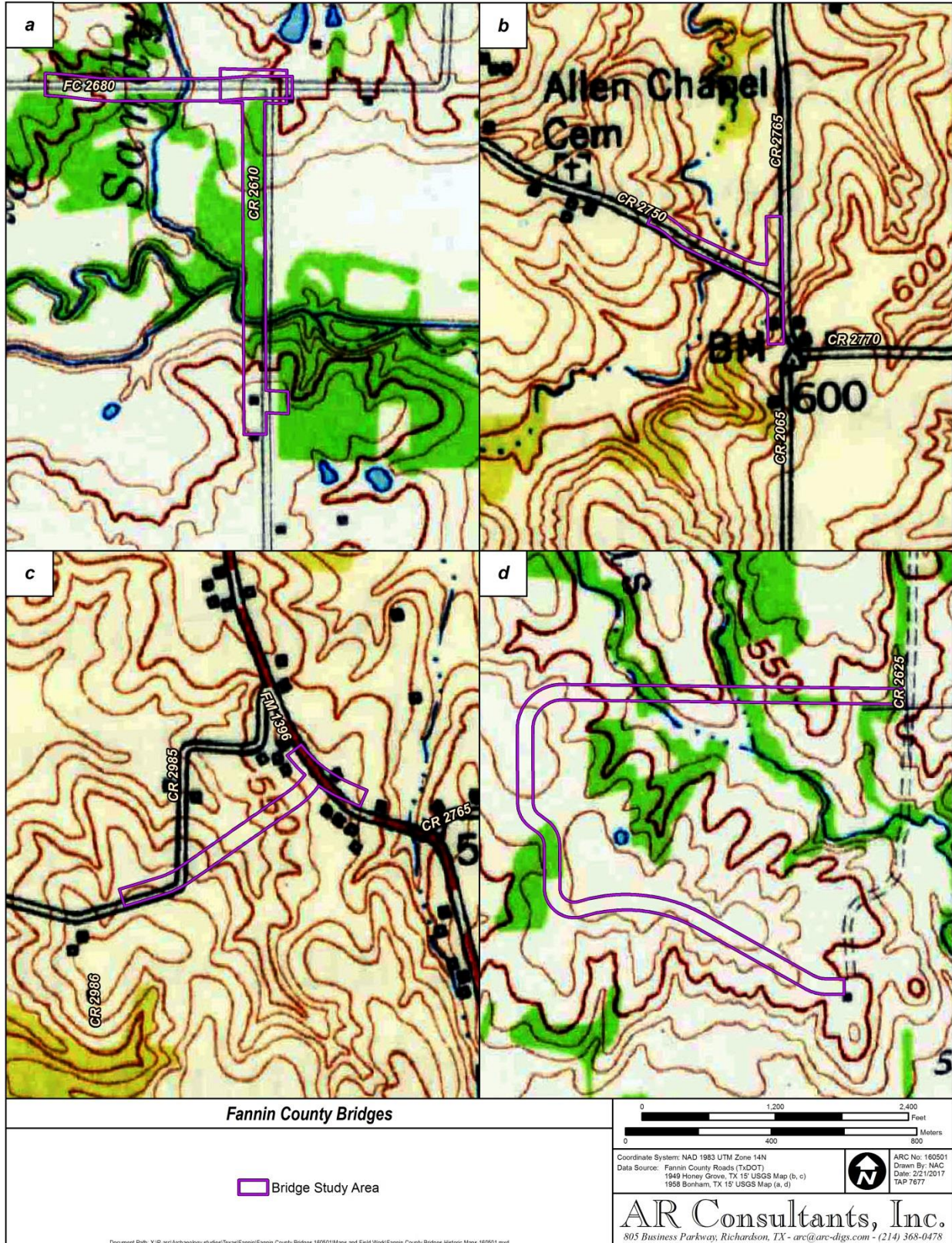


Figure 3. Study Areas 2/3 (a), 8A (b), 12 (c), and 27 (d) shown on the 1949 Honey Grove, TX 15' USGS map (b, c) and the 1958 Bonham, TX 15' USGS map (a, d).

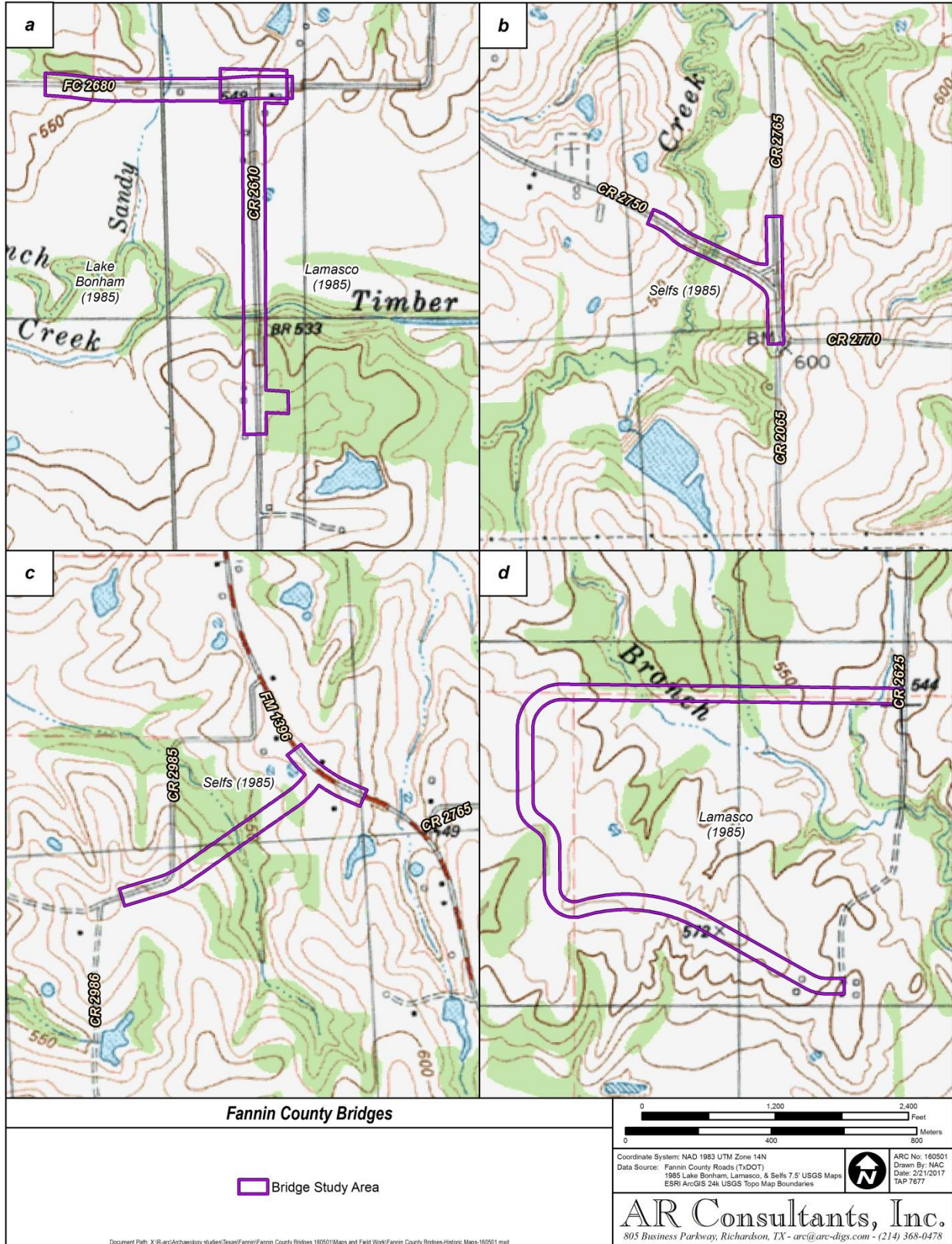


Figure 4. Study Areas 2/3 (a), 8A (b), 12 (c), and 27 (d) shown on the 1985 Lake Bonham, Lamasco, and Self's, TX 7.5' USGS maps.



Figure 5. Study Area 12 shown on a U.S. Army Map Service aerial from 1955 (a) and a 2015 Texas Orthoimagery Program aerial (b).

## RESEARCH DESIGN AND METHODOLOGY

### Research Design

Based on the research conducted prior to the survey, two hypotheses were developed. First, it was hypothesized that there is limited potential for encountering prehistoric archaeological sites in the tributary floodplains. Each of the tributaries crossed by this project's study areas are fairly high in their respective watersheds and have relatively narrow floodplains. The food resources (both plant and animal) in these areas would have been scant, especially when compared to the broader floodplains not far downstream. Sites that might be found in the current project's settings would likely be small, limited scatters of artifacts and will not likely represent large campsites, which tend to be found on the terrace/floodplain margins in the Bois d'Arc Creek watershed.

The second hypothesis states that there was high potential for encountering historic sites near the locations where structures have been shown on historic maps. In total, this includes five locations in the project area, each of which is described in the previous chapter. Other than these locations, the potential for historic sites is moderate to low. However, artifact scatters constituting dumped trash might be present along historic roads or drainages encountered within the study areas. Residential features are not expected to have been built in the any of the creek floodplains.

### Methodology

Survey was conducted in accordance with the standards set forth by the THC (n.d.). Field personnel walked the study areas starting at the crossing and placed shovel tests every 100 m on both sides of the road or proposed road centerline. Shovel tests were placed where the slope was less than 20 percent and the ground visibility less than 30 percent; they averaged 30 cm in diameter. All sandy and loamy soils were screened through ¼" wire mesh screens. The clay fill was inspected visually and broken into smaller chunks in order to determine if cultural materials were present. ST soil matrices were described on the basis of composition, texture, and color. The Munsell Soil Color Chart (2009) was used to identify soil colors. The field crew made notes about the ground exposure, drainages, soil types, and disturbed areas where subsoil was exposed. Photographs of each existing bridge and culvert were taken from multiple angles, where possible. Photographs were taken during the survey using a 16-megapixel, GPS-equipped, digital camera. Site boundaries, STs, IOs, and study area locations were marked with a handheld GPS receiver.

The existing bridges/culverts were researched and, when 40 years old or older, evaluated by an architectural historian; these results are included as Appendix A. A 300-ft visual APE was studied around each proposed bridge/culvert location. Vegetation that may limit the visual APE of each proposed bridge/culvert was recorded by taking a panoramic photograph from each end of the proposed bridge/culvert area. These photographs are included as Appendix B and show the general setting of each study area. The visual APE was also evaluated in the field by looking for standing structures or other features that would be visible from the entire proposed bridge. Lastly, the APE was examined on high-resolution aerial photographs for structures or other features that might be within it.

## RESULTS

This chapter is divided into three sections. The first describes the project area's natural setting along with results of the pedestrian survey. The second section describes sites 41FN253-257 in detail; conclusions derived from the survey close the chapter. Shovel tests are described generally throughout the text, but are detailed in Tables 3-7 (site specific) in the respective site sections and in Appendix C (general project).

### Survey Results

The study areas were situated in three types of settings: fields (Figure 6), pastures (Figure 7), and woodlands (Figure 8). Fields were characterized by open, often plowed, agricultural areas with 30 to 100 percent ground visibility. Pastures were characterized by ankle- to chest-high grasses, resulting in 0 to 30 percent ground visibility. Woodland vegetation included pecan, post oak, bois d'arc, junipers, cedars, cedar elms, mesquite, honey locust, greenbriar, and some cactus; leaf cover and underbrush resulted in 0 to 20 percent ground visibility.



Figure 6. Example of field setting as seen in Study Area 27, facing west.





Figure 7. Example of pasture setting as seen in Study Area 12, facing east.



Figure 8. Example of woodland setting as seen in Study Area 27, facing west.

*Study Area 1 (Bridge)*

Both ends of this wooded study area are in the uplands adjacent to Ward Creek, and the topography dips steeply to where it crosses the creek near the center of the study area (Figure 9).

Fifteen shovel tests (STs) were excavated throughout the proposed study area. Generally, the A horizons of these STs ranged from 8 to 80 cm thick and included very dark grayish brown to dark yellowish brown, sandy clay loam to silty sand soils, occasionally mottled with silty clay. B horizon soils consisted of black to yellowish red silty loam, sandy clay, and clay. No artifacts or features were found in the STs or on the surface in this study area. Existing Bridge 1 was built in 1990 (Appendix A). No cultural resources were visible from Proposed Bridge 1 (Figure B-1) or on aerial photographs within the 300-ft visual APE (Figure 9).

#### *Study Areas 2/3 (Bridges)*

These study areas are situated in a combination of pasture, field, and woodland settings (Figure 10). Existing Bridge 3 crosses Sandy Branch and Existing Bridge 2 crosses Timber Creek. Between wooded areas, the study areas crossed pastures with 0 to 30 percent ground visibility. A total of 72 STs were excavated throughout these proposed study areas; of these, 42 STs lie within the boundaries of five newly recorded sites (41FN253-257), which are discussed in detail below. Generally, the A horizons exposed in these STs were 5-60 cm thick and were very dark grayish brown to yellowish brown/red silty sand to clay. Mottling was common. These are underlain by mottled B horizons of silty/sandy clay in a variety of colors (brownish gray, yellowish brown/red, strong brown, pink). ST3-1 recovered a fence staple from 10-20 cmbs; however, since it was not discernibly historic, and likely came from the adjacent fence or road, it was not considered an IO. In the western end of the study area, approximately ten shards of whiteware (likely from the same vessel, as well as two fragments of metal sheeting were found on the surface; ST3-19 was placed in this location but no artifacts were recovered below the surface. These items were also not identifiable as distinctly historic. All other STs were devoid of cultural material.

Existing Bridge 2 and 3 were both built in 1989 (Appendix A). No cultural resources were visible from Proposed Bridge 2 (Figure B-2) or on aerial photographs within the 300-ft visual APE (Figure 10). However, 41FN256 lies just east of Proposed Bridge 3, visible from the Proposed Bridge 3 location (Figure B-3) and on aerial photographs within the 300-ft visual APE (Figure 10). The possible effects of Proposed Bridge 3 on this site are discussed in the sites section.

#### *Study Area 4A (Bridge-Not Affected)*

This study area is situated in a woodland setting and is roughly bisected by an existing two-track road; it also crosses over a 1<sup>st</sup>-order intermittent tributary of Bois d'Arc Creek (Figure 9). A total of nine STs were excavated throughout this proposed study area. Generally, the A horizons of these STs were 15-85 cm thick and consisted of grayish/yellowish brown to reddish yellow silty sand and sandy loam; these soils were mottled in ST4A-2 and 4A-5. ST4A-4 differed slightly, with 20 cm of mottled reddish yellow loamy sand and strong brown sandy clay. B horizon soils were sandy loam/clay with some mottling; colors were red to yellow and brown to gray. None of the STs recovered cultural materials; one shard of modern clear glass was found in ST4A-6 near the road. There was no existing bridge in this study area; there were, however, galvanized metal culverts. No cultural resources were visible from Proposed Bridge 4A (Figure B-4) or on aerial photographs within the 300-ft visual APE (Figure 9). After the cultural resources survey, it was determined that this bridge will not be affected by the project.

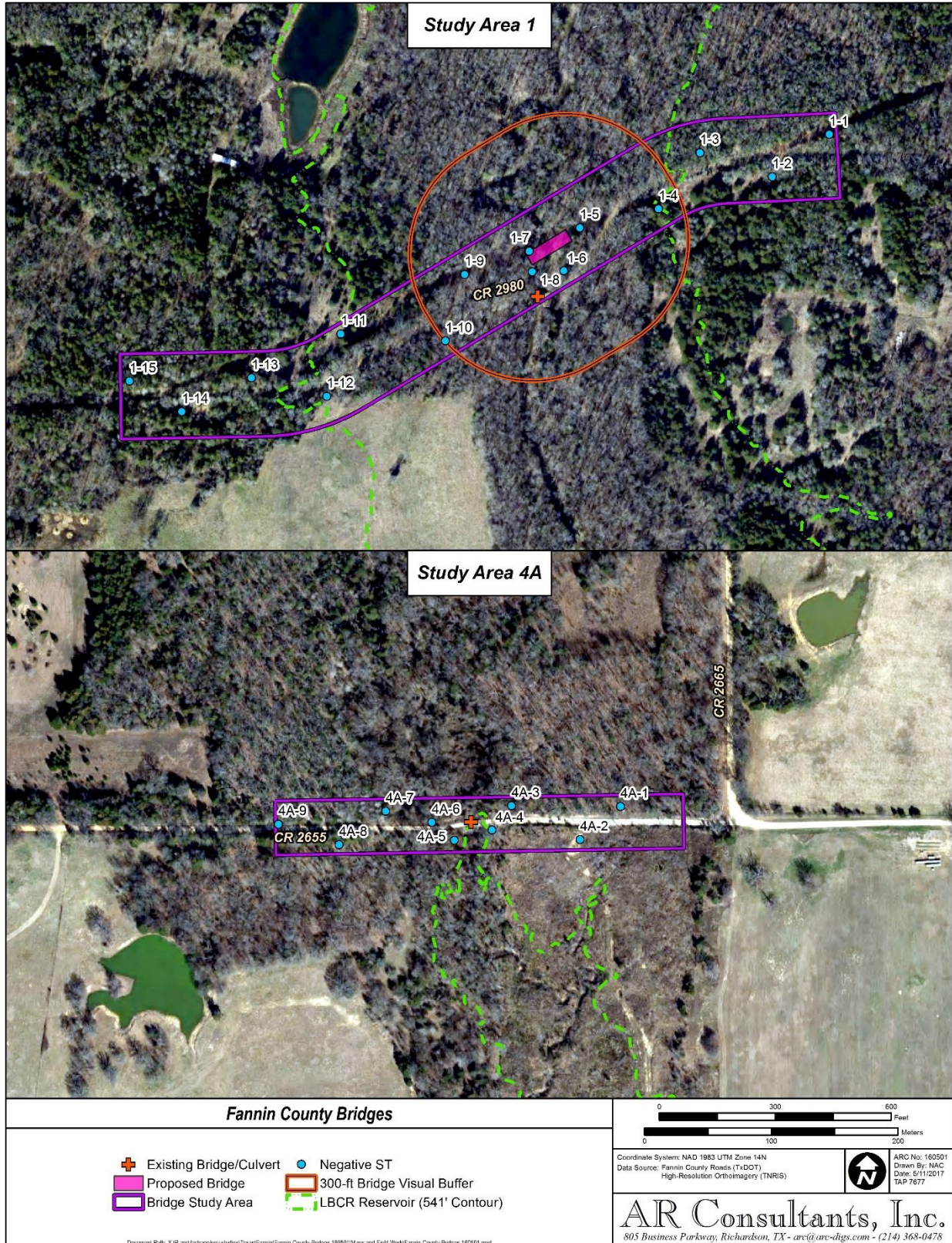


Figure 9. Bridge 1 and Bridge 4A study areas, shovel tests, existing bridges, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.



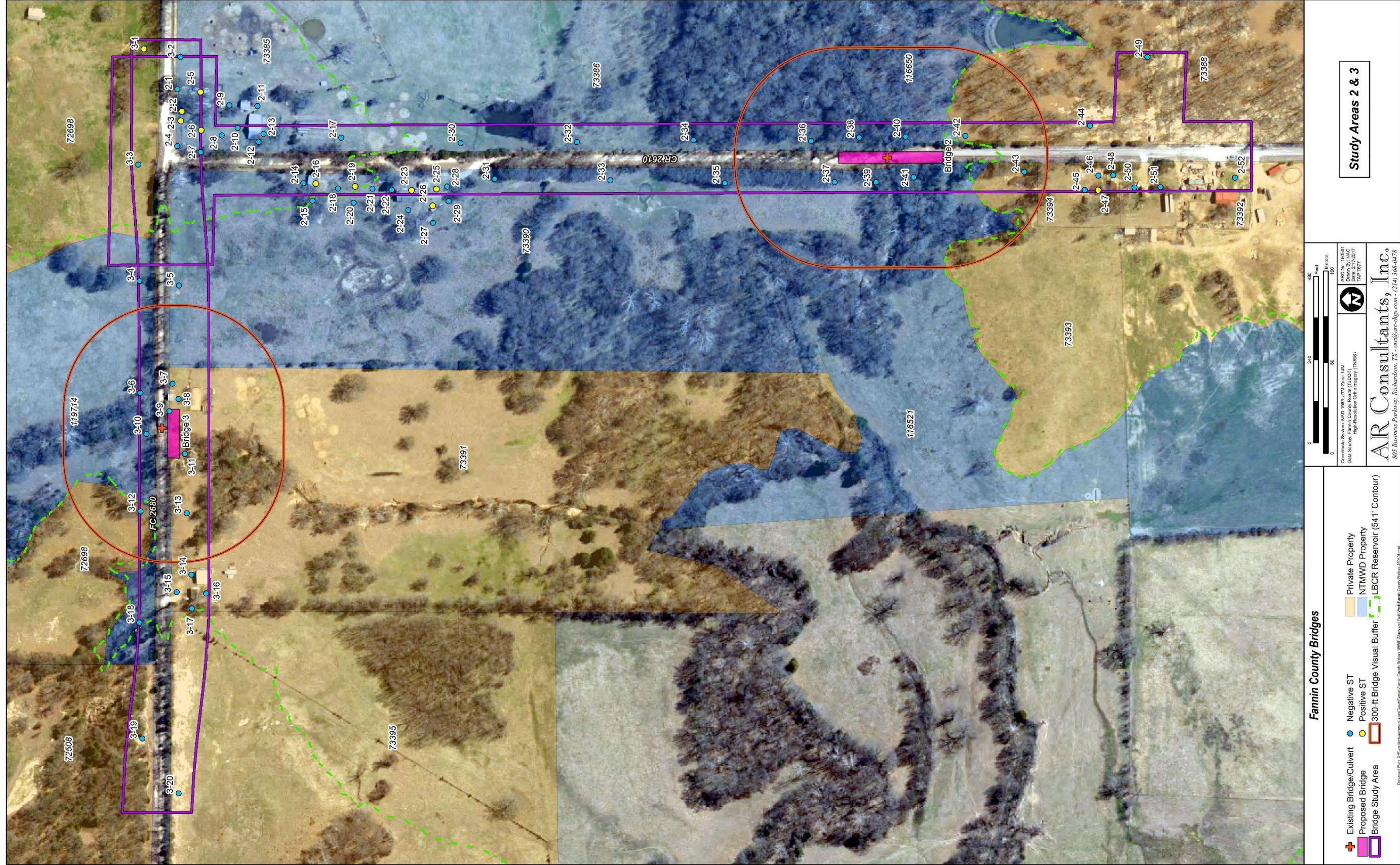


Figure 10. Bridge 2 and Bridge 3 study areas, shovel tests, existing bridges, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.



*Study Area 8 (Bridge-Not Affected)*

The majority of this study area crossed through pastures, with a small section in the southwest cutting through a field and the drainages being bordered by woodland. Existing Bridge 8 crosses Honey Grove Creek (Figure 11). A total of eight STs were excavated throughout this proposed study area. Generally, the A horizons of these STs were 18-60 cm thick with very dark grayish brown to olive yellow clay loam/clay soils. These were underlain by B horizon clay/sandy clay loam soils (dark reddish/yellowish brown, light gray, and strong brown). All except ST8-5, which encountered a modern brick fragment from 0-10 cmbs, were devoid of cultural materials. Existing Bridge 8 was built in 2014 (Appendix A). No cultural resources were visible from Proposed Bridge 8 (Figure B-5) or on aerial photographs within the 300-ft visual APE (Figure 11). After the cultural resources survey, it was determined that this bridge will not be affected by the project.

*Study Area 8A (Bridge)*

Existing Bridge 8A crosses over Allens Creek. Between wooded areas in the northwest section, the study area crossed a few plowed fields with 60-percent ground visibility; no STs were excavated in these fields (Figure 11). A total of nine STs were excavated throughout the proposed study area. The A horizons of these STs were 15-55 cm thick with black/ very dark grayish brown to olive brown, loam to silty clay soils, underlain by clay B horizons (some mottling: yellowish red/brown, olive brown, dark gray). No artifacts or features were found in the STs or on the surface in this study area. Existing Bridge 8A was built in 1982 (Appendix A). No cultural resources were visible from Proposed Bridge 8A (Figure B-6) or on aerial photographs within the 300-ft visual APE (Figure 11).

*Study Area 12 (Culvert)*

The majority of the study area is wooded, with a few areas crossing through pastures; it also crosses a 1<sup>st</sup>-order intermittent tributary of Yoakum Creek (Figure 12). A total of 18 STs, were excavated throughout this proposed study area. The A horizons of these STs were 5-48 cm thick and consisted of very dark grayish brown to light yellowish brown soils. B horizon soils were mottled sandy clay/clay comprised of a variety of colors (yellowish/grayish/olive/strong brown and red). Modern items, including a plastic button and clear glass shard, were recovered from ST12-4 at 10-20 cmbs. Nothing was encountered in any of the other 17 STs. One Coke bottle (IO1) was found on the surface (Appendix D). This bottle was produced between 1937 and 1951 (Lockhart and Porter 2010). The bottle was found along the edge of FM1396 and was not associated with any other artifacts or features (Figure 12). There was no existing bridge in this study area and no cultural resources were visible from Proposed Culvert 12 (Figure B-7) or on aerial photographs within the 300-ft visual APE (Figure 12).

*Study Area 13 (Bridge)*

The study area crosses over Yoakum Creek and a two-track road runs along the center of this study area (Figure 12). The eastern end of the study area is mostly in a pasture setting. The western two-thirds is lightly wooded; erosion in the southwestern end resulted in 100 percent ground visibility with no need to shovel test the last 150 meters on the south side of the county

road. A total of 11 STs were excavated throughout this proposed study area. The A horizons of these STs were 14-60 cm thick and consisted of dark grayish brown, loamy sand to silty clay. Dark grayish brown/ yellowish brown to light olive brown mottled clay B horizons underlay the topsoil. No artifacts or features were found in the STs or on the surface in this study area. There is no existing bridge in this study area; however, there are galvanized metal culverts. The aerial photograph shows a small cluster of trees northeast of the proposed bridge that was suspected of containing a structure; investigation of this area during survey found only a modern trash pile. No cultural resources were visible from Proposed Bridge 13 (Figure B-8) within the 300-ft visual APE (Figure 12).

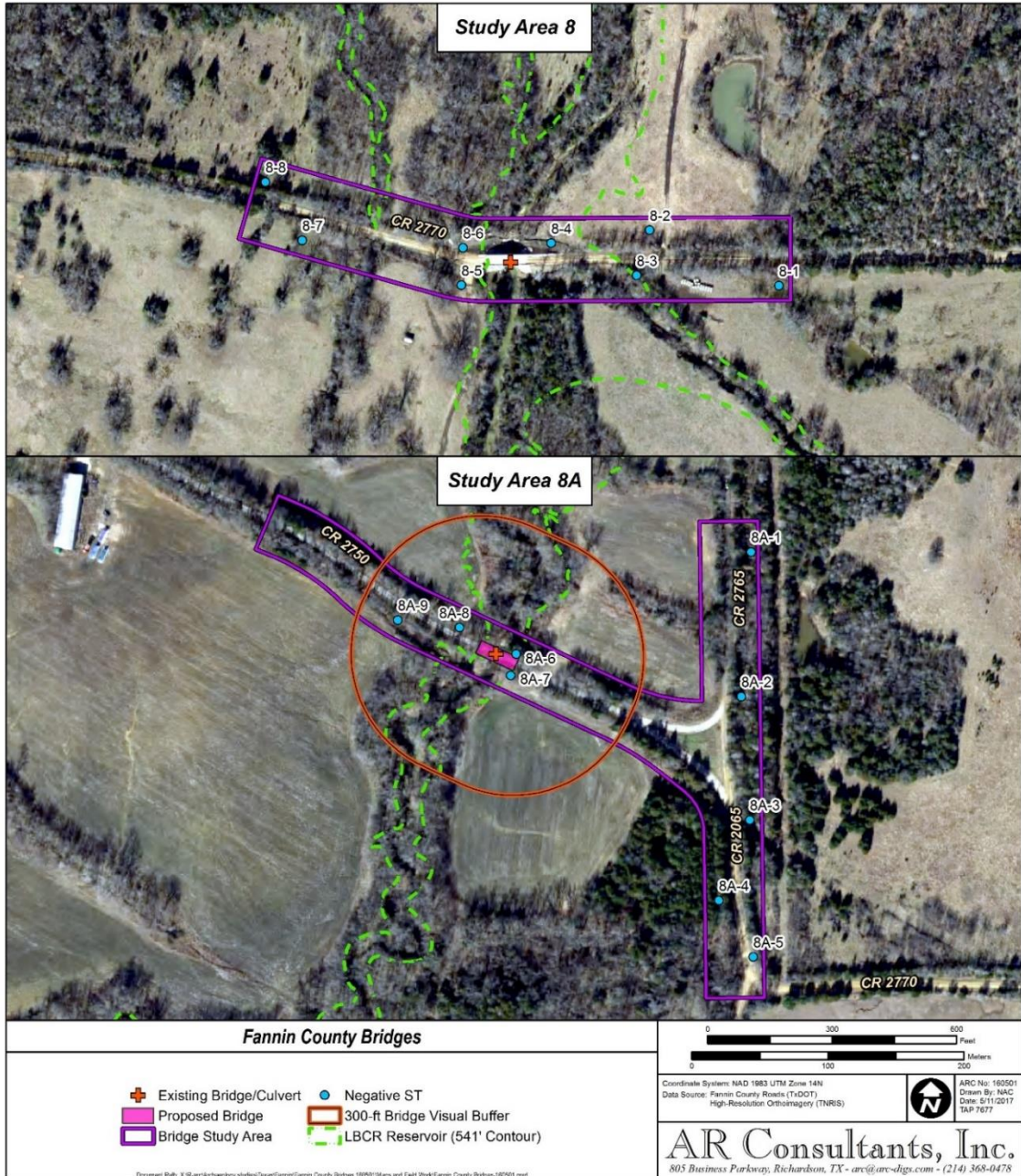


Figure 11. Bridge 8 and Bridge 8A study areas, shovel tests, existing bridges, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.



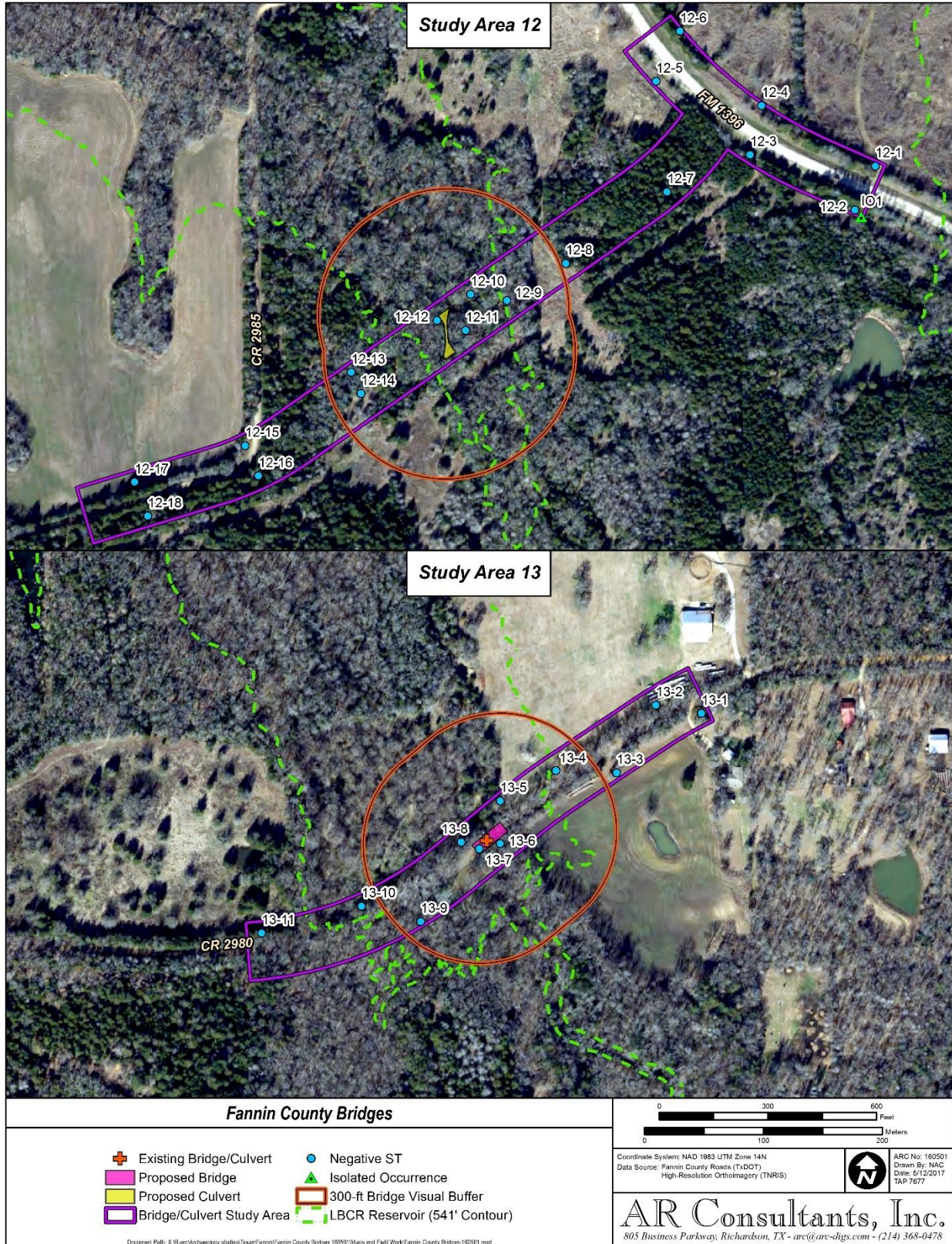


Figure 12. Bridge 12 and Bridge 13 study areas, shovel tests, existing bridges, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.

*Study Area 22 (Bridge)*

The Onstott Creek crossing of the Proposed Bridge 22 study area is wooded, but otherwise the study area crosses fields (Figure 13). A total of 15 STs were excavated in the proposed study area and exposed 19-85 cm of very dark grayish brown to black clay loam A horizons that were underlain by mottled dark grayish brown/black to strong brown/reddish yellow soils. A clear glass bottle base embossed with “MFG. CO/SAND SPRING OKLA/AUG 1915” (IO2) was found on the surface (Appendix D). This was likely from a Kerr fruit canning jar dating from the early 1900s (Whitten 2014). ST22-13 was excavated nearby, but did not reveal artifacts. No other artifacts were found in this study area. Existing Bridge 22 is a steel stringer/multi-beam/girder bridge that was built in 1968. In 2012, the Advisory Council on Historic Preservation exempted this type of bridge from case-by-case review (Appendix A). No cultural resources were visible from Proposed Bridge 22 (Figure B-9) or on aerial photographs within the 300-ft visual APE (Figure 13).

*Study Area 23 (Bridge)*

Most of the study area is wooded, but the southern end is in pasture. Existing Bridge 23 crosses a 1<sup>st</sup>-order intermittent tributary of Bois d’Arc Creek (Figure 13). Nine STs were excavated in this study area. A horizon soils were 15- to 115-cm-thick, very dark grayish brown silty loam/clay. These were underlain by clay subsoil (some mottled) that ranged from dark gray to yellowish red. No artifacts or features were found in the STs or on the surface in this study area. Existing Bridge 23 was built in 1991 (Appendix A). No cultural resources were visible from Proposed Bridge 23 (Figure B-10) or on aerial photographs within the 300-ft visual APE (Figure 13).

*Study Area 27 (Culverts)*

The northern section of this study area is mostly wooded; the remaining portion passes through a field and pastures (Figure 14). Ground visibility in this field was 90 percent and disturbances were so deep, that subsoil was frequently exposed (Figure 15); no STs were excavated in this disturbed field. Proposed Culverts 1 and 2 cross the same 1<sup>st</sup>-order tributary of Thomas Branch 330 m north of where it connects with the main creek drainage. Proposed Culvert 27-3 crosses a 2<sup>nd</sup>-order intermittent tributary of Thomas Branch 170 m north of where they converge, and Proposed Culvert 27-4 crosses Thomas Branch where it is a 1<sup>st</sup>-order intermittent stream. A total of 47 STs were excavated throughout this proposed study area. In STs placed along the wooded, northern portion of the study area, the A horizons were 4-45 cm thick, very dark grayish/yellowish brown and black clay loam that were underlain by mottled clay subsoil in a variety of colors. In the southern fields and pastures, the A horizons were generally 8-50 cm thick, though ST27-39, placed on a knoll, reached subsoil at 70-cmbs. These soils were comprised of dark yellowish/grayish brown silty sand/loam soils and underlain by mottled clay subsoil in a variety of colors. At the southern end of the study area, two structures lay just outside of the survey corridor (Figure 16 and Figure 17). To ensure related artifact scatters were not within the survey corridor, STs were placed as close to the structures as possible while remaining in the study corridor and the corridor was walked in transects spaced 5 m apart. No artifacts or features were found in the STs or on the surface in this study area. There are no existing bridges in this study area; however, there are galvanized metal culverts along the portion of CR 2625 bypassed by the proposed roadway. No cultural resources were visible from

Proposed Culverts 1-4 (Figures B-11, 12, 13, and 14) or on aerial photographs within the 300-ft visual APEs (Figure 14).

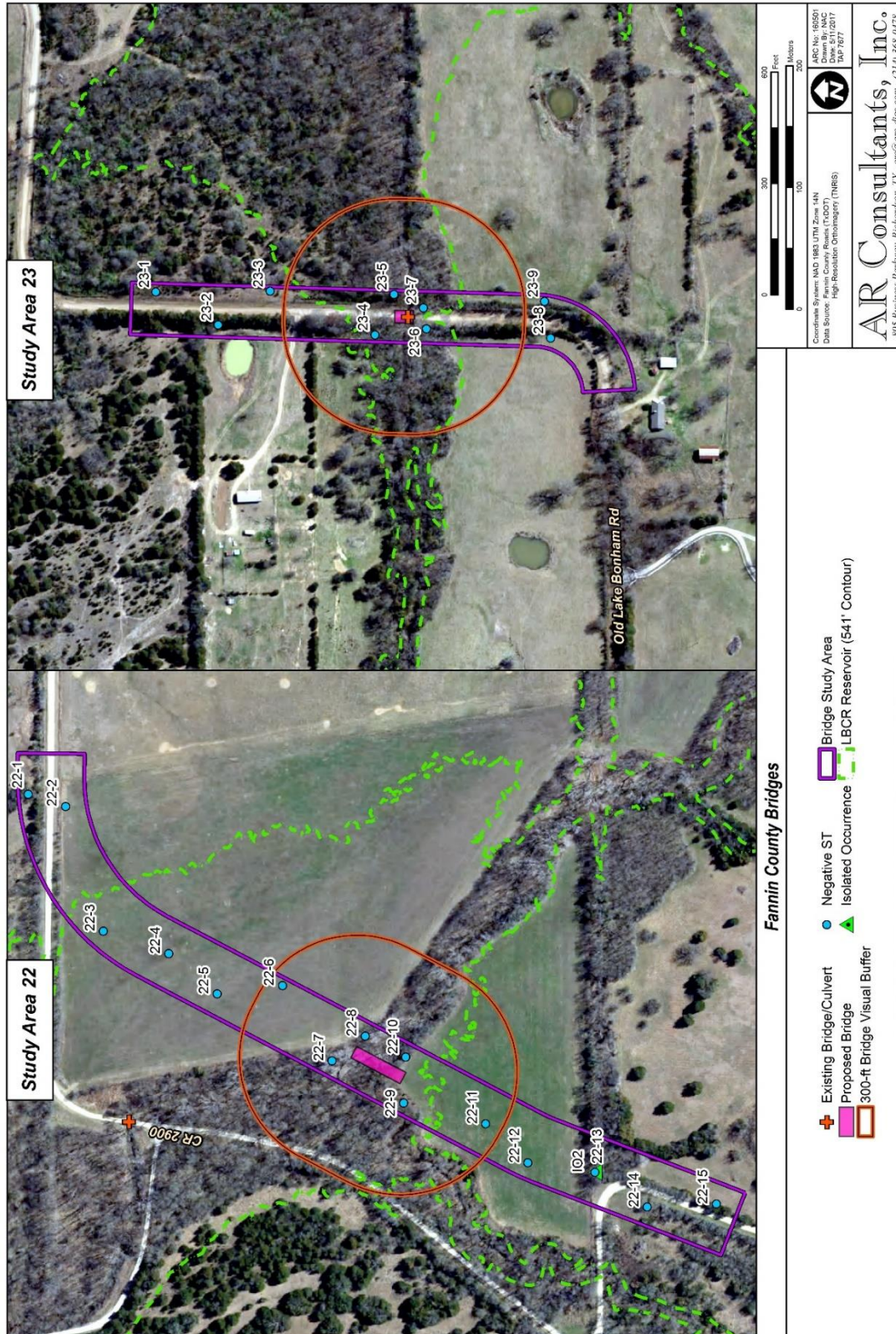


Figure 13. Bridge 22 and Bridge 23 study areas, shovel tests, existing bridges, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.

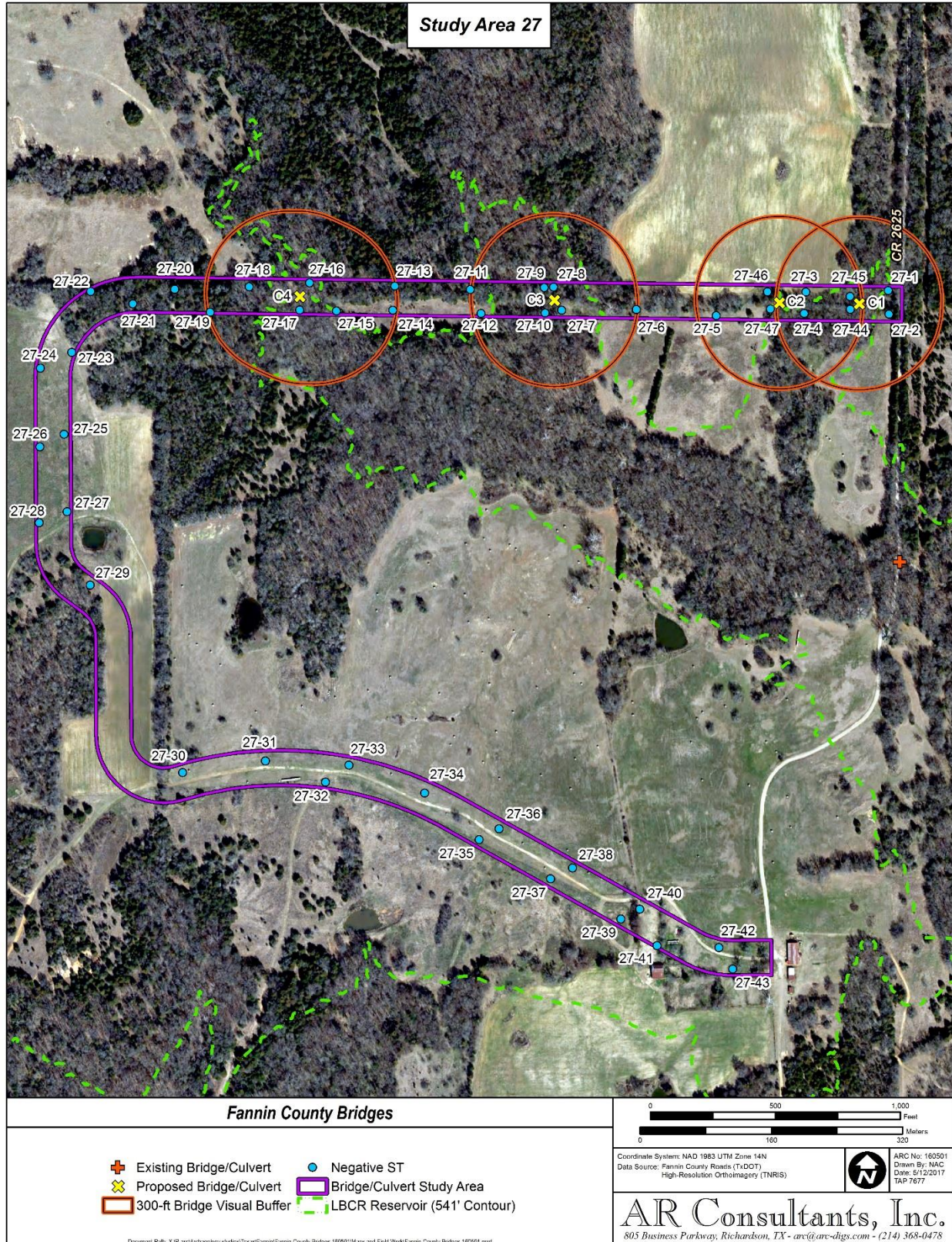


Figure 14. Bridge 27 Study Area, shovel tests, existing culvert, proposed bridge locations, and bridge visual buffers shown on a recent aerial photograph.



Figure 15. Feral pig ground disturbance (rooting) in pasture.



Figure 16. View from ST27-41, on the southern boundary of the Bridge 27 Study Area, looking north toward a structure outside the survey corridor.



Figure 17. View looking south at a house just outside the Bridge 27 Study Area's southern end.

### Site Descriptions

#### *41FN253*

This site is located within Study Areas 2 and 3, southeast of the intersection of CR 2610 and CR 2680. It sits in upland pasture with 0-30 percent ground visibility. It consists of a cluster of five structures: a house, a barn, a garage, and two outbuildings, which constitute a historic farmstead. The house is a gable-front structure facing north toward CR 2610 (Figure 18). It measures approximately 50 ft N/S by 35 ft E/W. The northernmost 8-10 ft of the house's footprint is a gabled addition split between an enclosed room on the west and a covered porch on the east. A second gabled addition has been built off the back of the house (Figure 19). This addition encompasses the northernmost 12 ft of the house's footprint, and consists of one or two enclosed rooms and a roofed back porch. The house is clad in a veneer of asbestos siding and is roofed with asphalt shingles. There are no gaps in the siding, so it was impossible to determine whether an original wood veneer was present beneath it. Wooden beadboard paneling is present on the front porch ceiling, so in all likelihood the house was once clad in wooden siding. The house sits on a pier-and-beam foundation, which is skirted with sheet metal pressed to resemble clapboard siding. All windows seem fairly modern, with metal sashes and frames; these are likely modern replacements for the original windows, which were probably wooden.



Figure 18. Southwest-facing view of the house at site 41FN253, as seen from just south of CR 2610.



Figure 19. Northwest-facing view of the house at site 41FN253.

Approximately 25 ft east of the house is a 25 ft E/W by 20 ft N/S garage, that sits at the south end of a 90-ft-long, paved driveway (Figure 20). This structure's frame and rafters are composed of 2x4s. It is clad in asbestos siding, which appears similar to that on the house; this siding has

come away in places, revealing horizontal shiplap siding composed of 1x8s. Its gabled roof, which features exposed rafter ends, is covered with sheet metal pressed to resemble board and batten siding. The garage's door faces north toward the driveway and is wide enough to accommodate two vehicles.



Figure 20. The garage at site 41FN253. View is to the southwest.

A 70 ft E/W by 30 ft N/S barn is located approximately 125 ft south of the house (Figure 21). The structure is composed of two N/S-oriented, enclosed rooms separated by a central open hall, with two shed additions on either side. The enclosed rooms likely constitute the oldest part of the structure and are framed with 2x6 studs and rafters, as well as some log support poles. The walls are composed of 1x12s laid to form vertical shiplap siding (Figure 22). Near the tops of the exterior walls in the enclosed rooms are square doors/windows measuring 1.5-2-ft; their purpose could not be determined, as they do not connect to a loft within the enclosed rooms or sheds. While the shed additions on the east and west sides of the barn may have once been open, the entire exterior of the barn is clad in corrugated sheet metal, as is the gabled roof. Wooden doors are present on the barn's north face to allow access to the enclosed rooms, shed additions, and a hay loft over the central hall. North of the barn is a large barnyard, where several pieces of agricultural equipment are present, including brush hogs, two watering troughs formed from a large-diameter metal pipe, and an elevated gas tank (Figure 23).

Two outbuildings are located between the barn and house. The larger of the two is roughly catty-corner from the barn, about 10 ft to the east. Measuring approximately 30 ft N/S by 25 ft E/W, the building is framed with 2x4 studs and rafters, with 4x4 support beams at each corner. Its exterior walls are clad in corrugated sheet metal, much like the barn (Figure 24). Its gabled roof is clad in sheet metal similar to that on the garage. The building's south face features a sliding wooden door, big enough to allow a vehicle to enter, on its eastern half and a smaller, hinged wooden door on its western half. A short paved driveway and stoop have been poured adjacent to



the doors. The second outbuilding is a much smaller shed about 30 ft south of the house (Figure 25). It is a side-gabled structure measuring approximately 15 ft E/W by 12 ft N/S, with hinged wooden doors on both its north and south faces. Its framing was almost identical to that of the outbuilding farther south.



Figure 21. The barn at site 41FN253, seen facing south.



Figure 22. View looking northeast within the 41FN253 barn's western shed addition, showing the doors/windows near the top of the enclosed room's exterior wall.



Figure 23. Northeast-facing view of items in the barnyard at site 41FN253.



Figure 24. North-facing view of the southernmost outbuilding at site 41FN253.

A total of 13 STs, four of which encountered historic artifacts or features, were excavated at site 41FN253 (Figure 26). ST2-2 exposed an amber glass vessel shard; ST2-3 exposed two brick fragments; ST2-5 exposed a clear glass bottle finish; ST2-6 exposed a concrete feature (Table 3). The concrete feature found in ST2-6 was a circular shaft with a diameter of 2.5 ft; the rim was about 1.5 in thick (Figure 27). While the purpose of this feature is unknown, it may have been a septic tank, given its location about 45 ft west of the house.



Figure 25. South-facing view of the northernmost outbuilding at site 41FN253.

A structure was mapped in this general location on the 1939 Fannin County soils map and on the 1958 Bonham, TX 15' USGS map. Structures generally conforming to those found during survey are shown on aerial photographs from 1950, 1955, and 1976. Based on these images, it would appear that this site dates to the early 20<sup>th</sup> century.

Deeds research was able to trace ownership of the property in which 41FN253 resides back to 1886, when R.T. Hunter sold his land to William Starnes (Fannin County Deeds Book [FCDB] 25:31). The property stayed in his possession until his death in 1899, when it was sold in a partition deed to H. L. Walker (FCDB 70:473). In 1902, the deed was acquired by W. J. Hill (FCDB 83:113), who then sold it to T.F. Goodman in 1911 (FCDB 124:171). Goodman only possessed the property for a year before selling it back to H. L. Walker in 1912. The property stayed in the possession of the Walker family, passing between five different family members (FCDB 269:233; FCDB 556:168; FCDB 782:231; FCDB 819:98; FCDB 1071:227), before being bought by the North Texas Municipal Water District in 2013 (FCDB 1653:46), who still owned the property at the time of survey. All previous property owners were searched for on the Texas State Historical Association's Handbook of Texas Online. None of the owners have entries on the site or are referenced in other entries.

This site appears to be in reasonably good condition, although the barn and house have likely been significantly modified over time. In assessing the site's potential significance, four criteria were considered. The property cannot be tied to any significant individuals or events (36 CFR 60.4a-b). The structures and features at the site do not represent unique construction forms or the work of a master (36 CFR 60.4c). Finally, it is unlikely the site holds any further potential to provide insight into past lifeways (36 CFR 60.4d). As such, site 41FN253 is recommended not eligible for listing on the NRHP or for designation as a SAL.



**Image intentionally omitted by authors**

Figure 26. Plan map of site 41FN253 shown on recent aerial photography.



Figure 27. View of the concrete feature found in ST 2-6. The concrete rim is visible in the ST hole; the pin flags show the approximate course of the rim based on probes of the soil with a shovel.

Table 2. Shovel Test Descriptions – 41FN253.

| RST# | Depth (cmbs)           | Description   | Comments/ Artifacts                        |
|------|------------------------|---|--|
| 2-1  | 0-10<br>10-25<br>25-32 | Very dark grayish brown (10YR3/2) sandy loam<br>Brown (7.5YR4/4) silty sand<br>Yellowish red (5YR4/6) sandy clay mottled with 30% light brown (7.5YR6/3) sandy clay           | None                                       |
| 2-2  | 0-15<br>15-30          | Dark grayish brown (10YR4/2) silty loam<br>Yellowish red (5YR4/6) clay mottled with 30% grayish brown (10YR5/2) clay  | 0-10cm: 1 amber glass vessel shard         |
| 2-3  | 0-20<br>20-30          | Dark grayish brown (10YR4/2) loam<br>Yellowish red (5YR4/6) clay mottled with 20% grayish brown (10YR5/2) clay  | 0-10cm: 2 brick fragments                  |
| 2-4  | 0-15<br>15-30<br>30-50 | Very dark grayish brown (10YR3/2) sandy loam<br>Brown (7.5YR4/4) silty sand<br>Yellowish red (5YR4/6) very sandy clay mottled with 30% light brown (7.5YR6/3) very sandy clay | None                                       |
| 2-5  | 0-25<br>25-33          | Brown (7.5YR4/2) silty sand<br>Yellowish red (5YR4/6) sandy clay mottled with 10% dark reddish gray (5YR4/2) sandy clay   | 0-10cm: clear glass bottle finish (modern) |
| 2-6  | 0-25<br>25-48<br>48-60 | Dark grayish brown (10YR4/2) silty loam<br>Grayish brown (10YR5/2) loose, silty loam<br>Yellowish brown (10YR5/4) loose silty loam  | 25-58cm: concrete feature                  |
| 2-7  | 0-10<br>10-40<br>40-50 | Dark grayish brown (10YR4/2) loam<br>Light brownish gray (10YR6/2) loose silty loam mottled with 40% brown (10YR5/3) loose silty loam<br>Yellowish red (5YR4/6) clay          | None                                       |
| 2-8  | 0-10<br>10-30          | Very dark grayish brown (10YR3/2) silty loam mottled with 30% dark yellowish brown (10YR4/4) silty loam<br>Yellowish red (5YR4/6) clay  | None                                       |

|      |                      |  |      |
|------|----------------------|--|------|
| 2-9  | 0-15<br>15-23        | Brown (10YR4/3) silty sand<br>Yellowish red (5YR4/6) clay  | None |
| 2-10 | 0-12<br>12-30        | Very dark grayish brown (10YR3/2) silty loam mottled with 35% dark yellowish brown (10YR4/4) silty loam<br>Yellowish red (5YR4/6) clay | None |
| 2-11 | 0-25<br>25-40        | Very dark grayish brown (10YR3/2) silty loam<br>Yellowish red (5YR4/6) clay mottled with 20% yellowish red (5YR5/6) clay               | None |
| 2-12 | 0-20<br>20-30        | Brown (10YR4/3) sandy loam<br>Yellowish red (5YR4/6) sandy clay  | None |
| 2-13 | 0-7<br>7-15<br>15-27 | Very dark grayish brown (10YR3/2) sandy loam<br>Brown (7.5YR4/3) sandy loam<br>Yellowish red (5YR4/6) sandy clay                       | None |

#### 41FN254

This multicomponent site consists of a 20<sup>th</sup>-century house site and a sparse, subsurface scatter of prehistoric lithic debitage and ceramics; it is located approximately 40 m southwest of 41FN253, just west of CR 2610. The southern portion of the site is located in a manicured yard; the northern portion is within an expanse of pasture dominated by knee- to waist-high weedy growth (Figure 28). Ground visibility was generally below 30 percent, although exposures were common, especially in the pasture, the surface of which was somewhat eroded. A total of 16 STs, five of which encountered artifacts, were used to define the extent of the prehistoric component (Figure 29). ST2-16 exposed two chert secondary flakes; ST2-19 exposed a 9.5-mm-thick, bone-tempered, utility ware ceramic sherd and a secondary chert flake; ST2-23 exposed one interior chert flake; ST2-25 exposed one secondary chert flake and one clear glass shard; ST2-26 exposed one secondary quartzite chip (Appendix D). Artifacts were encountered between 20 and 60 cmbs.



Figure 28. View looking north across the pasture setting in which the approximate northern half of site 41FN254 was recorded.

It is likely that this scant prehistoric deposit is what remains of a site that Jacob Davis, a local collector, reported to ARC after the initial survey of the Lower Bois d'Arc Creek Reservoir in 2011 (Davis et al 2014:239-240). Mr. Davis reported that numerous pieces of lithic debitage, at least one prehistoric pot sherd, and a Gary dart point had been observed at the site. ARC submitted the reported site location to TARL, based on Davis' description; the trinomial 41FN140 was issued for the site. When ARC conducted another round of survey at the reservoir in 2013, the site location was revisited and nine STs were conducted to test for the site's existence and determine its limits. None encountered cultural resources. These covered an area within and just west of the Bridge 2 study area and south of ST2-19 (Figure 29). Based on the negative results of the work done in 2013, TARL deleted the site from TASA and the site number was retired. With the results of this survey, the prehistoric deposit has been recorded as site 41FN254.

Based on the assemblage found in STs, it is likely that the prehistoric component of this site constitutes the ephemeral remains of a small, likely Late Prehistoric camp on the sandy terrace sediments overlooking Sandy Branch to the west and Timber Creek to the south. The site deposit was almost certainly more extensive in the past, with diagnostic artifacts (according to Mr. Davis) present in the assemblage. However, area residents have likely collected many of the more significant artifacts from the site over the years.

The historic component of site 41FN254 consists of a historic house. The house is not visible on aerial photographs from 1950 and 1955, but does show on aerials from 1976. The current occupants contend that the house is between 50 and 60 years old, so it was likely constructed shortly after 1955. It measures approximately 60 ft N/S by 33 ft E/W. The central part of the structure is a 26 ft N/S by 32 ft E/W, side-gabled portion of the house that features doors on its east and south faces (Figure 30). A chimney composed of commercially-fired bricks is present on the southern wall of this portion of the house. The northernmost 14 ft of the house's footprint is taken up by two rooms off the north edge of the side-gabled area. This likely constitutes a later addition, although the house's occupants were unsure if this was the case. The westernmost of these rooms features a gabled roof, the spine of which runs north along the same orientation as the central portion of the house. The eastern room features an east-facing gabled roof, which projects toward CR 2610, giving the house the appearance of having an L-plan configuration.

The southernmost 20 ft of the house's footprint is taken up by a covered porch, which is also likely a later addition to the structure (Figure 31). The porch features a 10-ft-long wing wall contiguous with the west face of the house. The porch is framed with 2x4 lumber, but has metal support poles set in its poured concrete floor. The south face of the roof is finished in wooden clapboard siding. The exterior of the house is clad in asphalt siding that features a woodgrain design; asphalt shingles clad the roofs. While the asphalt siding is almost certainly not the house's original siding, there are no gaps through which the original siding could be observed. The house's pier-and-beam foundation is skirted with both sheet metal and plywood, to which the asphalt siding has been affixed in places. A modern shed is located approximately 75 m north of the house (Figure 32).



**Image intentionally omitted by authors**

Figure 29. Plan map of site 41FN254 shown on recent aerial photography.





Figure 30. West-facing view of the house at site 41FN254.



Figure 31. North-facing view of the porch on the house at site 41FN254.

The first deed transaction found for the property containing site 41FN254 was between the heirs of Thomas Cowart and John Whitley in 1886 (FCDB 25:30). Thomas Cowart was likely the first Anglo-American to live on the property, as the survey of the land bears his name. Although the original documentation could not be located, a subsequent warranty deed mentions that at some point, ownership of the property passed from John Whitley to his son, Dick C. Whitley (FCDB

255:712). Upon Dick Whitley's death in 1943, the property was sold by his wife Eva to S.R. Echols (FCDB 255:712). S.R. Echols and his wife Cloma owned the property for 58 years, before selling it to Penny Pannell in 2001, shortly after the death of S.R. (FCDB 944:459). Pannell was in possession of the property for eight years, until it was bought by the North Texas Municipal Water District in 2009 (FCDB 1459:552), who were the owners of the land at the time of survey. All previous property owners were searched for on the Texas State Historical Association's Handbook of Texas Online. None of the owners have entries on the site or are referenced in other entries.



Figure 32. A modern shed north of the house at site 41FN254. View is to the north.

The prehistoric component of this site is in fairly poor condition, having been subjected to collection by local residents and impacted by erosion of the sandy topsoil. Given its sparse artifact assemblage and apparent lack of features, this component holds very little potential to provide insight on prehistoric lifeways or environments (36 CFR 60.4d). The historic component is in somewhat better condition, but numerous alterations and additions to the house have severely impacted its integrity. Because the site has no known association with significant events or persons (36 CFR 60.4a-b), does not constitute the work of a master or an example of unique architecture (36 CFR 60.4c), and has quite limited potential to provide insight into historic lifeways (36 CFR 60.4d), site 41FN254 is recommended not eligible for listing on the NRHP or as a SAL.

Table 3. Shovel Test Descriptions – 41FN254.

| RST# | Depth (cmbs)           | Description   | Comments/ Artifacts |
|------|------------------------|---|---------------------|
| 2-14 | 0-35<br>35-60          | Dark grayish brown (10YR4/2) silty loam<br>Yellowish red (5YR5/8) very silty clay   | None                |
| 2-15 | 0-14<br>14-40<br>40-50 | Dark grayish brown (10YR4/2) sandy loam<br>Light yellowish brown (10YR6/4) fine sand<br>Yellowish red (5YR5/8) sandy clay | None                |

|      |                        |  |  |
|------|------------------------|--|--|
| 2-16 | 0-12<br>12-36<br>36-50 | Brown (10YR5/3) dry silty loam<br>Yellowish brown (10YR5/4) compact, silty loam<br>Yellowish red (5YR5/6) Sandy clay   | 20-30cm: 2 chert secondary flakes  |
| 2-18 | 0-4<br>4-17<br>17-30   | Dark grayish brown (10YR4/2) silty loam<br>Brown (10YR5/3) sand<br>Yellowish red (5YR5/8) sandy clay   | None   |
| 2-19 | 0-50<br>50-65<br>65-70 | Brown (10YR4/3) fine loamy sand<br>Pale brown (10YR6/3) fine sand<br>Strong brown (7.5YR4/6) sandy clay  | 30-40cm: 1 prehistoric ceramic, 1 chert secondary flake                          |
| 2-20 | 0-40<br>40-55<br>55-60 | Brown (10YR4/3) fine sandy loam<br>Yellowish brown (10YR5/4) fine sand<br>Strong brown (7.5YR4/6) sandy clay   | None   |
| 2-21 | 0-20<br>20-41<br>41-50 | Dark grayish brown (10YR4/2) sandy loam<br>Brown (10YR5/3) sand<br>Brown (10YR5/3) sandy clay mottled with 40% yellowish red (5YR5/8) sandy clay   | None   |
| 2-22 | 0-9<br>9-28<br>28-50   | Grayish brown (10YR5/2) dry, sandy loam<br>Yellowish brown (10YR5/4) dry, compact sand<br>Light gray (10YR7/1) compact, sandy clay (dry) mottled with 10% yellowish brown (10YR5/8) compact, sandy clay (dry)                  | None   |
| 2-23 | 0-70<br>70-80<br>80-90 | Brown (10YR4/3) fine loamy sand<br>Pale brown (10YR6/3) fine sand<br>Strong brown (7.5YR4/6) sandy clay  | 50-60cm: 1 chert interior flake  |
| 2-24 | 0-10<br>10-40<br>40-50 | Brown (10YR4/3) fine sandy loam<br>Dark yellowish brown (10YR4/4) fine sand<br>Strong brown (7.5YR4/6) sandy clay  | None   |
| 2-25 | 0-35<br>35-52          | Brown (10YR5/3) sand<br>Yellowish red (5YR5/8) sandy clay  | 20-30cm: 1 chert secondary flake (lost in field)<br>30-40cm: 1 clear glass shard |
| 2-26 | 0-53<br>53-62          | Brown (10YR5/3) sand<br>Yellowish red (5YR5/8) clay  | 20-30 cm: 1 quartzite secondary chip   |
| 2-27 | 0-30<br>30-65<br>65-80 | Dark grayish brown (10YR4/2) silty loam<br>Light yellowish brown (10YR6/4) compact sand mottled with 35% yellowish brown (10YR5/6) compact sand<br>Yellowish brown (10YR5/6) clay mottled with 30% yellowish red (5YR5/8) clay | None   |
| 2-28 | 0-39<br>39-58<br>58-67 | Dark yellowish brown (10YR4/4) sandy loam<br>Pale brown (10YR6/3) compact, sandy clay loam mottled with 20% yellowish brown (10YR5/6) compact, sandy clay loam<br>Yellowish red (5YR5/8) compact, sandy clay                   | None   |
| 2-29 | 0-44<br>44-48<br>48-54 | Dark grayish brown (10YR4/2) sandy loam<br>Light brownish gray (10YR6/2) compact, sandy loam<br>Yellowish red (5YR5/8) sandy clay and 10% light brownish gray (10YR6/2) sandy clay   | 0-40 cm: Bits of modern plastic  |

41FN255

This site is a historic house site located south of CR 2680, approximately 200 m from the western end of the Bridge 3 study area. This site is located in a residential lawn where ground visibility is typically below 30 percent. As was the case at site 41FN254, the house at this site consists of a historic component that was added onto in the decades after its construction. The oldest component of this house is a double-cell-plan structure with a hipped roof, which

measures approximately 30 ft N/S by 18 ft E/W (Figure 33). Originally, the front door of this house was likely on the east face of the northernmost room. However, a two-room gabled addition was built onto the east side of the original component; the front door enters into the westernmost of these rooms. A covered porch was built onto the north face of this addition; an open back porch was built onto its south face, in the corner where the addition joins the original house (Figure 34). Finally, a shed-style addition has been built onto the south face of the original house.

Mr. J. Lee Pearson, the current landowner, indicated that he and his sons had built these additions in the 1970s (Personal communication 2017). He was not sure when the original house was constructed; the Fannin County Appraisal District (FCAD) gives a construction date of 1950 for the main area of the house. This date is at odds with aerial photography from 1955, which shows that no house stood in this location at that time. The first depiction of this house on aerial photographs dates to 1976. The house's exterior is clad in asbestos siding; the roof is covered with asphalt shingles. Its pier and beam foundation is skirted with corrugated sheet metal. Approximately 15 ft east of the house is a modern metal storage building; FCAD lists its construction date as 2007. STs 3-14 through 3-17 were excavated around the house; all were negative (Figure 35).

The deed record for this house is closely tied to that of the property in which site 41FN254 is located. Prior to 1943, it would seem that this property (Fannin County Parcel [FCP] 73391) was part of the site 41FN254 property (FCP 73390), which was purchased by S.R. and Cloma Echols in 1943 from Eva Whitley (FCDB 255:712). J. Lee Pearson, who still owns the property, and his wife Bonnie Jean, purchased this portion of the property in 1965 from the Echols (FCDB 479:542). A search for the Pearsons on the Handbook of Texas Online returned no results.



Figure 33. South-facing view of the house at site 41FN255.



Figure 34. The rear of the house at site 41FN255. View is to the northwest.

Table 4. Shovel Test Descriptions – 41FN255.

| RST# | Depth (cmbs)            | Description  | Comments/ Artifacts |
|------|-------------------------|--|---------------------|
| 3-14 | 0-5<br>5-42<br>42-51    | Brown (10YR5/3) sandy loam<br>Light yellowish brown (10YR6/4) coarse, compact sand<br>Strong brown (7.5YR4/6) compact sandy clay mottled with 20% very pale brown (10YR7/3) compact sandy clay               | None                |
| 3-15 | 0-20<br>20-60<br>60-90* | Very dark grayish brown (10YR3/2) silty sand<br>Yellowish brown (10YR5/4) fine silty sand<br>Yellowish brown (10YR5/4) wet fine silty sand mottled with 50% dark grayish brown (10YR4/2) wet fine silty sand | None                |
| 3-16 | 0-40<br>40-75<br>75-90  | Brown (7.5YR5/2) silty loam mottled with 40% brown (7.5YR4/2) silty loam<br>Brown (7.5YR4/4) silty loam mottled with 30% light brown (7.5YR6/3) silty loam<br>Yellowish red (5YR5/6) silty clay loam         | None                |
| 3-17 | 0-13<br>13-59<br>59-70  | Grayish brown (10YR5/2) fine silty loam<br>Yellowish brown (10YR5/4) sand<br>Very pale brown (10YR7/4) sandy clay  | None                |

This site is in relatively good overall condition, but the abundant additions to the house have limited its integrity. Research demonstrates that the site property is not associated with noteworthy people or events (36 CFR 60.4a-b). As much as can be determined from its heavily altered form, the house does not appear to constitute an example of unique construction form or the work of a master craftsman (36 CFR 60.4c). Finally, it likely has limited to no potential to provide meaningful insights into past lifeways or environments (36 CFR 60.4d). As such, site 41FN255 is recommended as ineligible for inclusion on the NRHP or as a SAL.

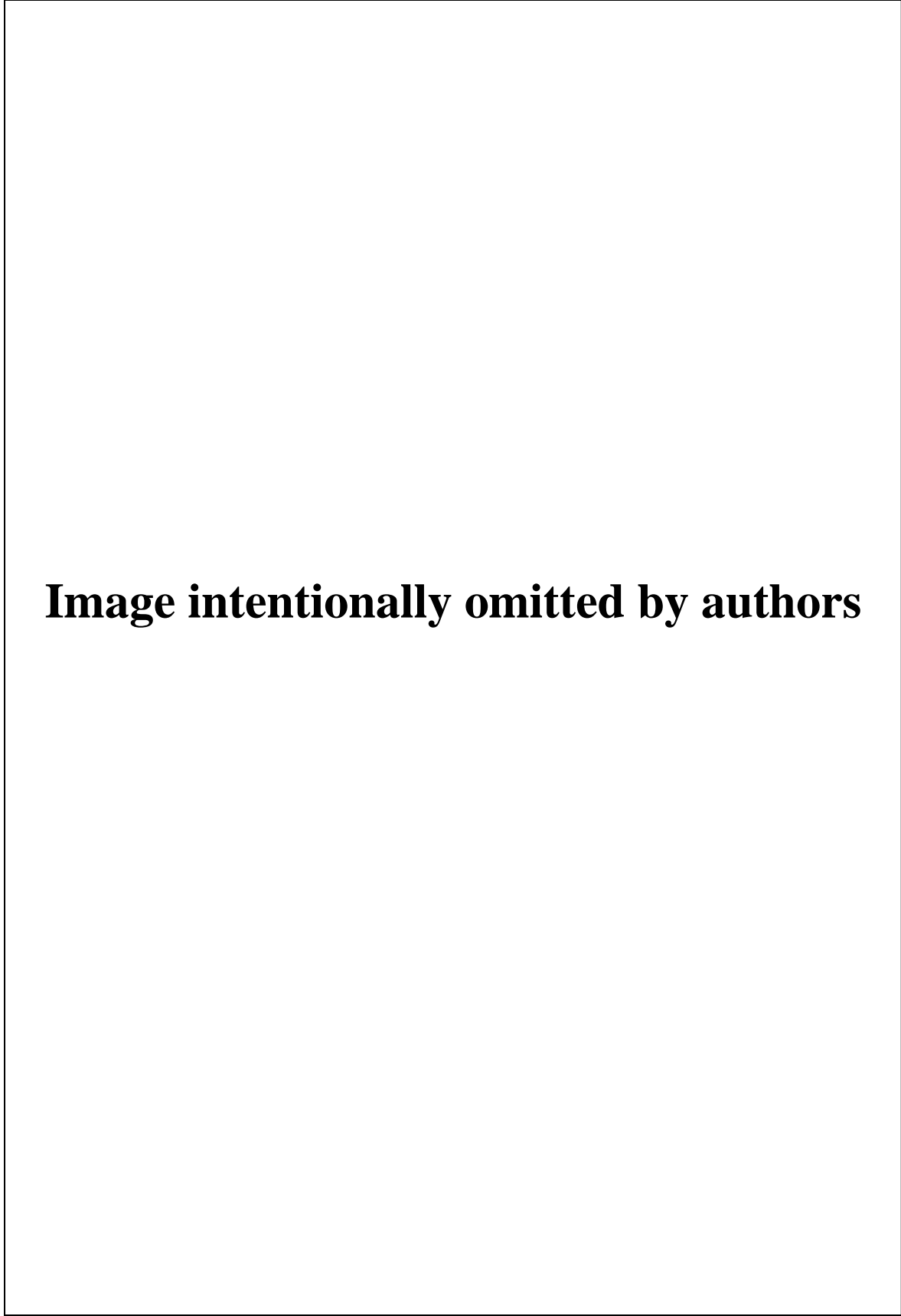


Figure 35. Plan map of site 41FN255 and 41FN256 shown on recent aerial photography.

## 41FN256

This site is located in the Bridge 3 study area, south of CR 2680, approximately 150 m east of site 41FN255 on the same property (Figure 35). The site is within the 300-ft-wide visual APE for Proposed Bridge 3. The barn is clearly visible from Existing Bridge 3 (Figure B-3). Located in improved pasture with ground visibility of 20-30 percent, the site consists of a pole barn that measures approximately 28 ft E/W by 20 ft N/S (Figure 36). The structure's frame and rafters are composed of 2x4s, with log support poles, likely pine, at each corner. The exterior is clad in vertical wooden shiplap siding (1x8s) and covered with a veneer of corrugated sheet metal, as is the roof. Double doors, which open wide enough for a vehicle to enter, are present on the structure's south face. The easternmost 8 ft of the barn's footprint is taken up by a shed-style addition. While the addition's east and north walls are enclosed, its south face is open; this area is currently used for storage. The barn sits on the northern edge of a 130 ft E/W by 70 ft N/S fenced barnyard (Figure 37). Three STs were excavated around the structure (3-7, -8, and -9); all were negative (Figure 35).



Figure 36. The barn constituting site 41FN256. View is to the north.

The site 41FN256 barn is located on the same property as the house that constitutes site 41FN255, which is currently owned by J. Lee Pearson. Indeed a two-track road, which crosses Sandy Branch, serves to connect to two structures. Like the house at site 41FN255, the barn does not show on aerial photographs until 1976. The barn was recorded as historic site 41FN256 largely based on its inferred association with the site 41FN256 house.

As discussed in the 41FN255 site description, this property has no known association with significant individuals or events (36 CFR 60.4a-b). It also does not represent a unique form of construction or the work of a master (36 CFR 60.4c). Finally, it too is very unlikely to offer

insights into past lifeways or environments (36 CFR 60.4d). Accordingly, site 41FN256 is recommended as not eligible for listing on the NRHP or as a SAL. Though the site is in the visual APE for Proposed Bridge 3, the site is not recommended eligible for the NRHP, and, therefore, is not a historic property that could be indirectly impacted by the new bridge.



Figure 37. West-facing view of the barnyard at site 41FN256.

Table 5. Shovel Test Descriptions – 41FN256.

| RST# | Depth (cmbs)  | Description   | Comments/ Artifacts |
|------|---------------|---|---------------------|
| 3-7  | 0-20<br>20-36 | Brown (10YR5/3) sandy loam<br>Brown (10YR5/3) clay mottled with 30% strong brown (7.5YR5/6) clay              | None                |
| 3-8  | 0-30<br>30-45 | Yellowish brown (10YR5/4) sandy loam (compact)<br>Pale brown (10YR6/3) sandy clay loam (very compact and dry) | None                |
| 3-9  | 0-18<br>18-50 | Dark grayish brown (10YR4/2) sandy loam<br>Dark yellowish brown (10YR4/4) sandy clay                          | None                |

#### 41FN257

This site is located west of CR 2610, approximately 80 m from the southern end of the Bridge 2 study area, and consists of a historic house site. The site is located in a maintained lawn, with ground visibility of 20-30 percent. A structure is shown in this location as early as 1939, when it was depicted on the FCSM. By 1955, an outbuilding had been built approximately 100 ft northwest of the main structure, according to an aerial photograph from that time. Three buildings are present at the site today: a house and a partially-collapsed shed to the northwest, which are almost certainly the structures shown on the 1955 aerial, and a modern garage south of the house.



The house is large, measuring approximately 60 ft E/W by 35 ft N/S. It is a front-gable structure that faces east toward CR 2610; an 8-ft-by-20-ft porch, which is covered by a gabled roof, dominates the east face of the structure (Figure 38). The westernmost 14 ft of the house is made up of two additions, which likely add two rooms to that side of the house. The northern of these additions features a hipped roof (Figure 39), while the southern addition features a gabled roof, with a shed-style roof affixed to its south face that covers a concrete-floored porch (Figure 40). The entire house is clad in modern vinyl siding. Storm windows have been placed over the house's original windows. These consist of single-paned wooden sashes within wooden frames that feature sash pulleys. FCAD lists an improvement date for the house of 1987, which is probably when these updates were made. Brown asphalt shingles cover the house's roof.

A concrete walkway connects the house's southern porch to a modern garage south of the house. South of the garage is a concrete storm cellar, which sits beneath a large juniper tree (Figure 41). The cellar is approximately 8 ft E/W by 6 ft N/S, with a corrugated metal door covering the stairs. The outbuilding seen on historic aerial photography at this site appears to be a timber-framed shed clad in vertical shiplap siding and roofed with corrugated metal, which sits beneath an old oak tree approximately 100 ft northeast of the house (Figure 42). Since this shed was outside the Bridge 2 study area, it was only visually inspected from the study area's western edge.

Six STs (2-45 through 2-51) were excavated at site 41FN257 (Figure 43). Only one, ST2-47, encountered cultural material. This was a piece of curved metal found in the top 10 cm. Several ornate plant pots with similar metalwork were seen on the north side of the house. It may be that the metal came from one of these or a similar item. No STs were placed outside the Bridge 2 Study Area, because the site is located on private property. As such, site 41FN257 constitutes the only site that was not fully recorded during this survey. The shed was an obvious feature adjacent to the site; the extent of the site's subsurface component outside the study area could not be estimated.

Ownership of the site 41FN257 property can be traced back to 1887, when J. R. Dement purchased it from J. B. Mauer (FCDB 24:456). Two years later in 1889, Dement sold the property to W. N. Duncan (FCDB 71:531), who then sold it to Joe G. Peevey in 1899 (FCDB 75:88). Peevey retained the property for 15 years, which was then bought by A. A. Campbell (FCDB 135:206). Campbell sold the property to C. F. Henry in 1919 (FCDB 157:54), who then shortly sold it to J. R. Fairchild in 1921 (158:569). J. R. Fairchild was only in possession of the property for about a year, selling it to W. W. Fitzwater on December 5, 1922 (FCDB 179:85). The property stayed within the Fitzwater family for 65 years (FCDB 349:506; FCDB 658:652), until it was sold to Melanie Mincey in 1987 (FCDB 697:715), who was the current owner of the property at the time of survey. A search of the Handbook of Texas Online returned no entries about the named property owners. However, this search did reveal that a man named M.W. Fitzwater led the Farm Labor Union out of Bonham in the 1920s (Brown 2010). With a multi-state membership that numbered 160,000 at its height, this union agitated for better pay and working conditions for tenant farmers and laborers. By the late-1920s, the organization was in decline. It is unknown what association existed between M.W. Fitzwater and W.W. Fitzwater, although they were likely related.



Figure 38. The house at site 41FN257, as seen looking west from the edge of CR 2610.



Figure 39. South-facing view of the house at site 41FN257, showing the hipped-roof addition on the house's west side.

As was the case at all historic sites recorded during this survey, this site is in relatively good condition, but the house has been substantially modified over the past few decades. Deeds research shows that at least one previous owner (W.W. Fitzwater) may have been related to M.W. Fitzwater, a figure of minor note in an early-20<sup>th</sup>-century labor movement. However, this relationship could not be confirmed. Even if it had, such an association is quite tentative. As such, the site appears to have no ties to significant individuals or events (36 CFR 60.4a-b). The

house and associated outbuildings and features, while potentially quite old, do not constitute the work of a master craftsman or unique construction forms (36 CFR 60.4c). Finally, the site appears to have little potential to provide insight into past lifeways or environments (36 CFR 60.4d). Based on these criteria, the portion of site 41FN257 that is within the project area is recommended as not eligible for listing on the NRHP or as a SAL.



Figure 40. View looking northwest at the site 41FN257 house, showing the covered porch and gable-roofed addition on the house's west face.



Figure 41. The cellar at site 41FN257, as seen looking north toward the modern garage and the house beyond.



Figure 42. A shed northeast of the house at site 41FN257, as seen looking northwest from the western edge of the Bridge 2 study area.

Table 6. Shovel Test Descriptions – 41FN257.

| RST# | Depth (cmbs)           | Description   | Comments/ Artifacts        |
|------|------------------------|---|----------------------------|
| 2-45 | 0-20<br>20-30          | Dark grayish brown (10YR4/2) clay loam<br>Brown (7.5YR4/4) clay mottled with 40% dark grayish brown (10YR4/2) clay  | None                       |
| 2-46 | 0-25<br>25-40          | Brown (7.5YR5/2) silty loam<br>Brown (7.5YR5/3) clay mottled with 50% reddish brown (5YR4/4) clay   | None                       |
| 2-47 | 0-20<br>20-30          | Dark grayish brown (10YR4/2) clay loam<br>Brown (7.5YR4/4) clay mottled with 20% dark grayish brown (10YR4/2) clay  | 0-5 cmbs: 1 metal fragment |
| 2-48 | 0-30<br>30-45          | Brown (7.5YR5/3) silty loam mottled with 40% pinkish gray (7.5YR6/2) silty loam<br>Yellowish red (5YR4/6) silty clay mottled with 45% brown (7.5YR5/2) silty clay                                   | None                       |
| 2-50 | 0-15<br>15-20          | Dark grayish brown (10YR4/2) clay loam<br>Brown (7.5YR4/4) clay mottled with 20% dark grayish brown (10YR4/2) clay  | None                       |
| 2-51 | 0-15<br>15-35<br>35-45 | Brown (7.5YR4/2) silty loam<br>Brown (7.5YR5/2) silty clay loam mottled with 50% brown (7.5YR5/3) silty clay loam<br>Reddish brown (5YR4/4) silty clay mottled with 35% brown (7.5YR5/2) silty clay | None                       |

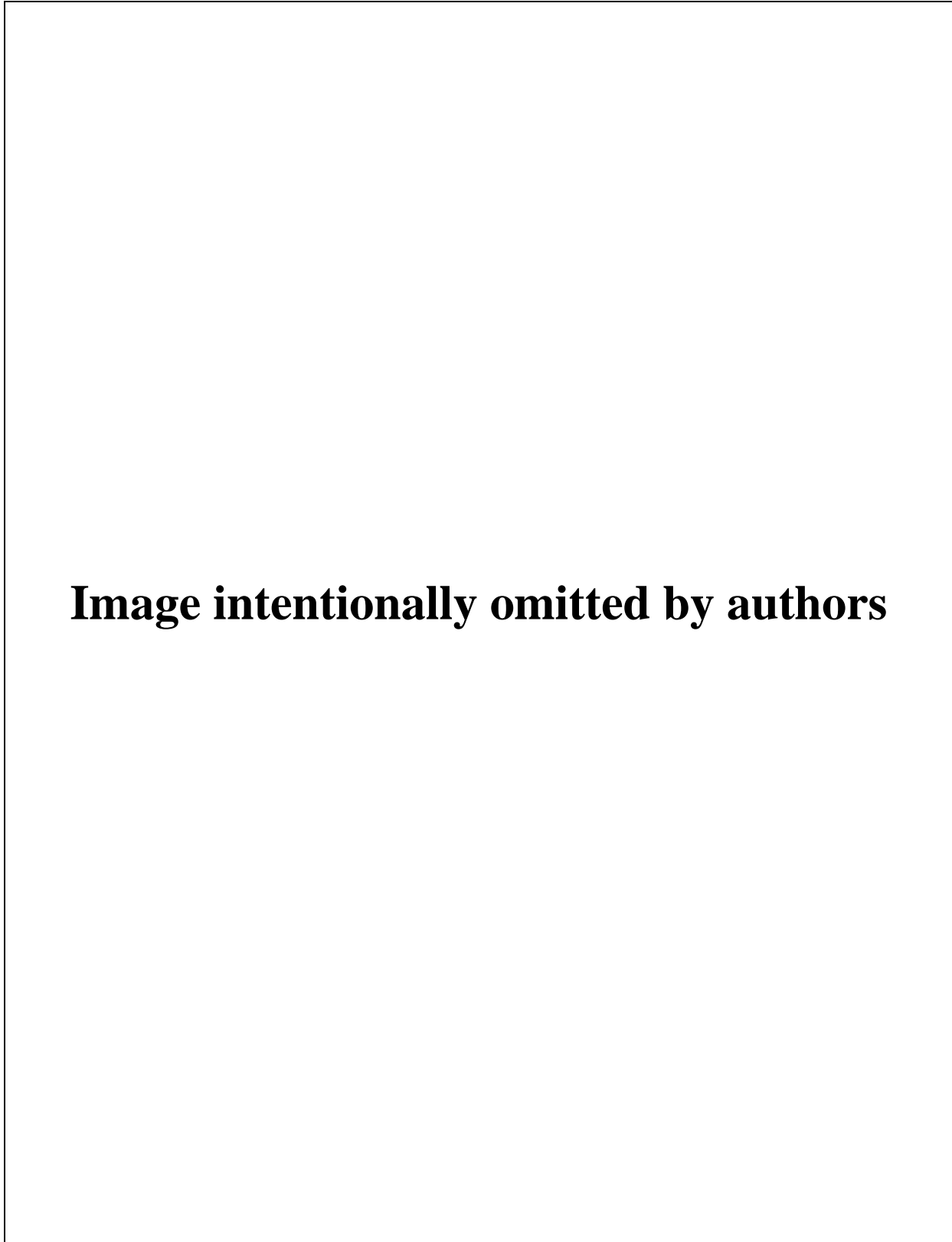


Figure 43. Plan map of site 41FN257 shown on recent aerial photography.

### Conclusions

Survey of the proposed bridge and roadway improvement areas within the footprint of the proposed Lower Bois d'Arc Creek Reservoir resulted in the recording of five historic archaeological sites (41FN253 through 41FN257), one of which (41FN254) also had a prehistoric component. These results generally conform with the results of survey within the proposed reservoir and the larger Bois d'Arc Creek watershed (Davis et al. 2014). The only prehistoric resources were found on a terrace overlooking the perennial Timber Creek floodplain, a setting where several other prehistoric sites have been found within the watershed. The historic sites all generally correspond to the locations of structures shown on historic maps of Fannin County.

The historic sites largely consist of standing structures and all appear to date to the 20<sup>th</sup> century. The structures are generally in fairly good condition; however, in most cases their integrity has been impacted to some degree by alterations and additions of varying significance. This was most evident in the cases of the houses, where present. Shovel testing around the structures revealed that all five sites had sparse or non-existent subsurface deposits, although this investigation method did uncover a below-ground concrete feature, likely a septic feature, at site 41FN253.

The prehistoric component at site 41FN254 is quite sparse, perhaps indicating that it marks a short-term occupation along Timber Creek. It is likely, however, that the site deposit was more extensive in the past. Erosion of the area's topsoil and the activities of local collectors have probably contributed to the slow depletion of the site's assemblage and integrity.

## RECOMMENDATIONS

The purpose of this investigation was to determine if significant cultural resources are present in the proposed bridge improvement areas within the Lower Bois d’Arc Creek Reservoir footprint in Fannin County, Texas. Five archaeological sites were documented in the course of this investigation. Based on the site assemblages and archival research conducted before, during, and after field work, ARC has made several conclusions about these sites in regards to their eligibility for listing on the NRHP or as a SAL. None of the historic sites were found to have any known link to notable historical events or personages (36 CFR 60.4a-b). The structures and features at the historic sites were not examples of unique architectural forms and were not works of a master craftsman (36 CFR 60.4c). Finally, none of the sites exhibit much potential to offer significant insights into past lifeways or environments (36 CFR 60.4d). Accordingly, ARC recommends that sites 41FN253-256 are not eligible for listing on the NRHP or as a SAL (Table 7). However, site 41FN257 is partially within the project area and partially outside of it on private land; the portion on private land was not recorded. ARC recommends that site 41FN257 is not eligible within the project area.

Based on the results of the survey, ARC concludes that further cultural resource investigations for this project are unwarranted, and recommends that the THC concur with this assessment. This recommendation is contingent on the entirety of the project’s construction activities being limited to the proposed Study Areas. Finally, ARC recommends that if buried cultural materials are discovered during construction, the Archeology Division of the THC should be notified to assess the significance of the find.

Table 7. Summary of Recommendations.

| Site Number | Site Summary  | NRHP/SAL Eligibility Recommendation |
|-------------|---|-------------------------------------|
| 41FN253     | 20 <sup>th</sup> -century farmstead                                   | Not eligible                        |
| 41FN254     | Prehistoric artifact scatter and 20 <sup>th</sup> -century house site | Not eligible                        |
| 41FN255     | 20 <sup>th</sup> -century house site                                  | Not eligible                        |
| 41FN256     | 20 <sup>th</sup> -century barn  | Not eligible                        |
| 41FN257     | 20 <sup>th</sup> -century house site                                  | Not eligible with in project area   |

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- Texas Historical Commission
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**APPENDIX A**  
**ARCHITECTURAL HISTORIAN EVALUATIONS**  
**OF EXISTING BRIDGES**



September 8, 2016

Ms. Molly Hall, Principal Investigator  
 Mr. Nick Coleman  
 AR Consultants, Inc.  
 805 Business Parkway  
 Richardson, Texas 75081

**Re: Seven bridges located in Fannin County, Texas**

Dear Ms. Hall and Mr. Coleman,

Per your request, I have reviewed the photos you provided for seven bridges located within the area of potential effect of the archeological survey your firm is currently conducting in Fannin County. The purpose of the photo review was to determine if a reconnaissance survey of the bridges would be needed to evaluate the bridges for eligibility for listing in the National Register of Historic Places. The seven bridges reviewed are listed below:

| ARC ID No. | Crossing                                  | NBI No.   | Year Built | Type                             |
|------------|---|---|------------|----------------------------------|
| 1          | CR 2750 over Ward Creek                   | 010750AA0248001   | 1990       | Steel stringer/multi-beam/girder |
| 2          | CR 2610 over Timber Creek                 | 010750AA0186001   | 1989       | Steel stringer/multi-beam/girder |
| 3          | CR 2680 over Sandy Branch                 | 010750AA0349001   | 1989       | Steel stringer/multi-beam/girder |
| 8A         | CR 2750 over Allens Creek                 | 010750AA0251001   | 1982       | Steel stringer/multi-beam/girder |
| 8          | CR 2760 over Honey Grove Creek            | 010750AA0252001<br>(old number; new NBI number unknown) | 2014       | Concrete Beam/girder             |
| 22         | CR 2900 over Onstott Branch               | 010750AA0124001   | 1968       | Steel stringer/multi-beam/girder |
| 23         | CR 2610 over Bois D' Arch Creek Tributary | 010750AA0342001   | 1991       | Steel stringer/multi-beam/girder |

Source: National Bridge Inventory, Available at [www.nationalbridges.com](http://www.nationalbridges.com)

321 S. Boston Avenue, Tulsa, OK 74112



In addition to reviewing the photographs you provided, I reviewed the Texas Department of Transportation's GIS data for bridges listed, or eligible for listing, in the National Register of Historic Places, which is available at:  
<http://www.arcgis.com/home/webmap/viewer.html?webmap=e55a0c5725644e5badef578db02bee9f>.

Lastly, I reviewed the National Bridge Inventory to identify each bridge's NBI No. (unique identifier) and date of construction. Based on review of the photos and the National Bridge Inventory, the only historic-age bridge of the seven is the CR 2900 bridge over Onstott Branch (ARC ID No. 22). It was constructed in 1968.

In November 2012, the Advisory Council for Historic Preservation (ACHP) issued a Program Comment for common concrete and steel bridges constructed after 1945. The Program Comment excludes certain bridges from case-by-case review under Section 106 of the National Historic Preservation Act (NHPA). The CR 2900 bridge over Onstott Branch is a steel stringer/multi-beam/girder bridge, one of the types identified in the Program Comment as common and exempt from further documentation or review under NHPA Section 106.

It is my professional opinion that further historic resources investigations regarding these seven bridges is not warranted. Of the seven bridges, only one bridge –CR 2900 over Onstott Branch– was determined to be historic-age. It is a common bridge type that has been determined not to have the potential for significance under the ACHP Program Comment. Therefore, it is exempt from further documentation or review under Section 106 of the NHPA.

Please contact me at [heatherg@coxmcclain.com](mailto:heatherg@coxmcclain.com) or 918-986-1717 should you have any questions regarding this analysis.

Sincerely,

A handwritten signature in blue ink, appearing to read "Heather", with a long horizontal line extending to the right.

Heather D. Goodson, MSHP, MCRP  
Historic Preservation Manager

321 S. Boston Avenue, Tulsa, OK 74112

**APPENDIX B**

**VISUAL AREA OF POTENTIAL EFFECT PHOTOGRAPHS  
FOR PROPOSED BRIDGES**



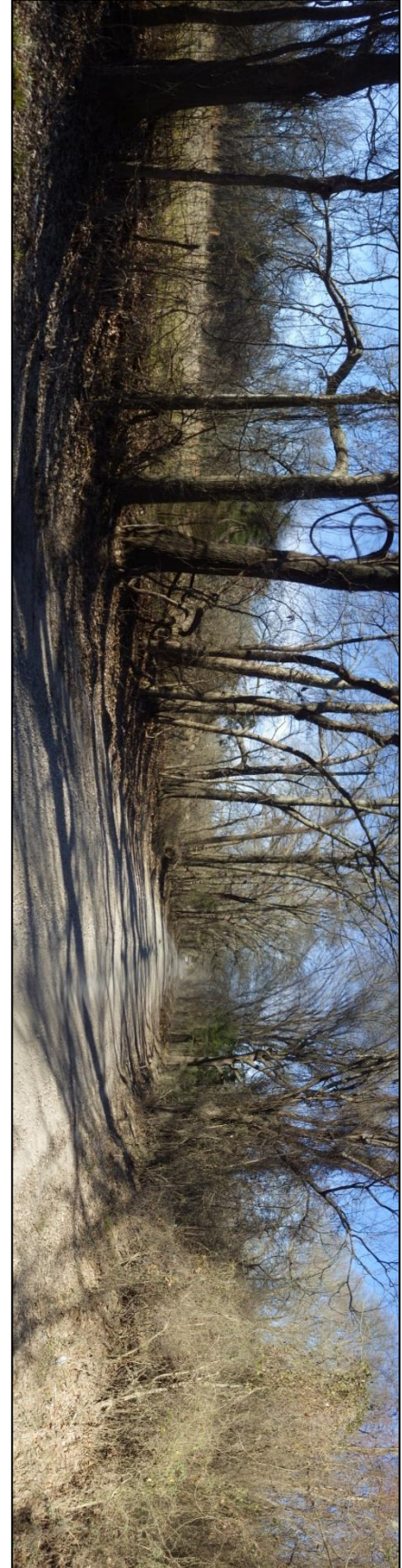
Figure B-1. Top: View from southwest end of Proposed Bridge 1, facing southwest.  
Bottom: View from northeast end of Proposed Bridge 1, facing northeast.



Figure B-2

Top: View from north end of Proposed Bridge 2, facing north.

Bottom: View from south end of Proposed Bridge 2, facing south.



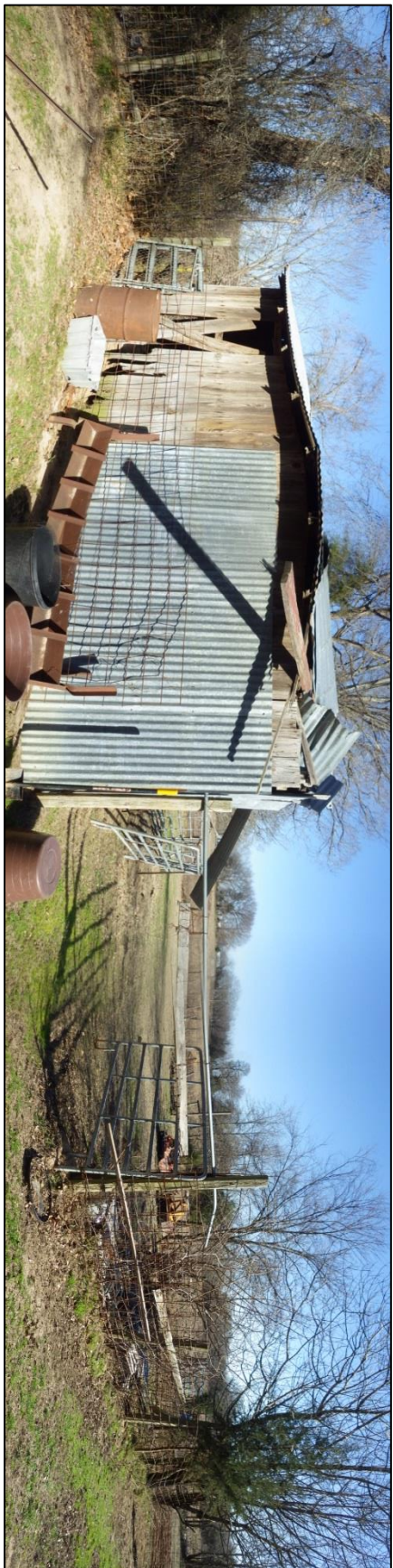


Figure B-3.

Top: View from west end of Proposed Bridge 3, facing west.



Bottom: View from east end of Proposed Bridge 3, facing east.





Figure B-4. Top: View from west end of Proposed Bridge 4A, facing west.  
Bottom: View from east end of Proposed Bridge 4A, facing east.



Figure B-5. Top: View from west end of Proposed Bridge 8, facing west.  
Bottom: View from east end of Proposed Bridge 8, facing east.



Figure B-6.

Top: View from northwest end of Proposed Bridge 8A, facing northwest.

Bottom: View from southeast end of Proposed Bridge 8A, facing southeast.

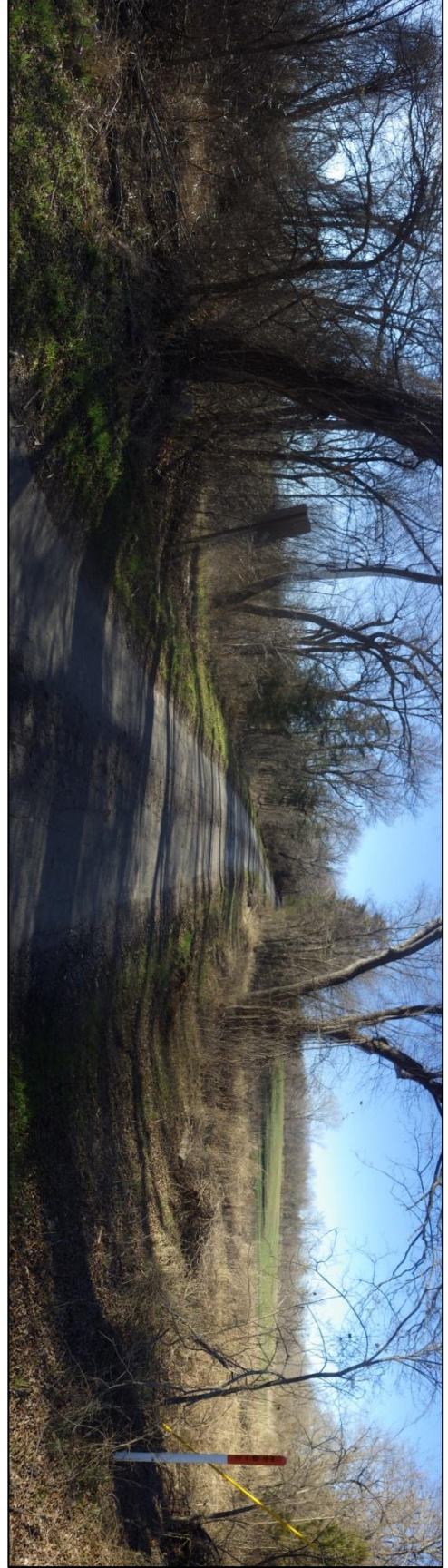




Figure B-7. Top: View from southwest end of Proposed Culvert 12, facing southwest.  
Bottom: View from northeast end of Proposed Culvert 12, facing northeast.



Figure B-8.

Top: View from southwest end of Proposed Bridge 13, facing southwest.

Bottom: View from northeast end of Proposed Bridge 13, facing northeast.



Figure B-9 Top: View from south-southwest end of Proposed Bridge 22, facing south-southwest.  
Bottom: View from north-northeast end of Proposed Bridge 22, facing north-northeast.

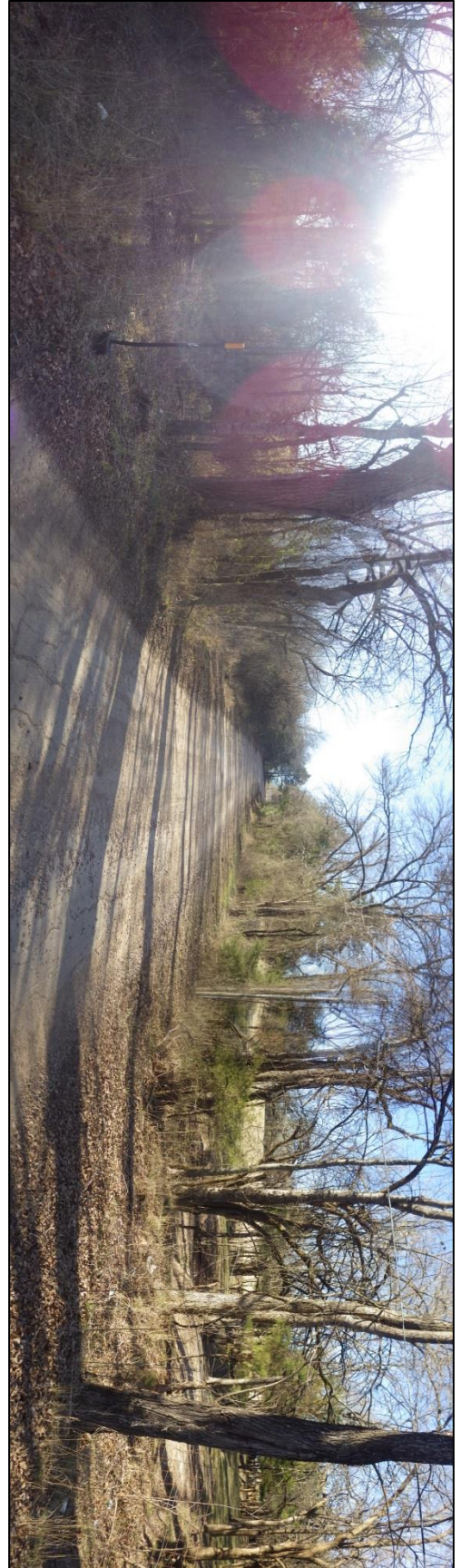


Figure B-10. Top: View from north end of Proposed Bridge 23, facing north.  
Bottom: View from south end of Proposed Bridge 23, facing south.



Figure B-11. Top: View from west end of Proposed Culvert 2, facing west.  
Bottom: View from east end of Proposed Culvert 2, facing east.



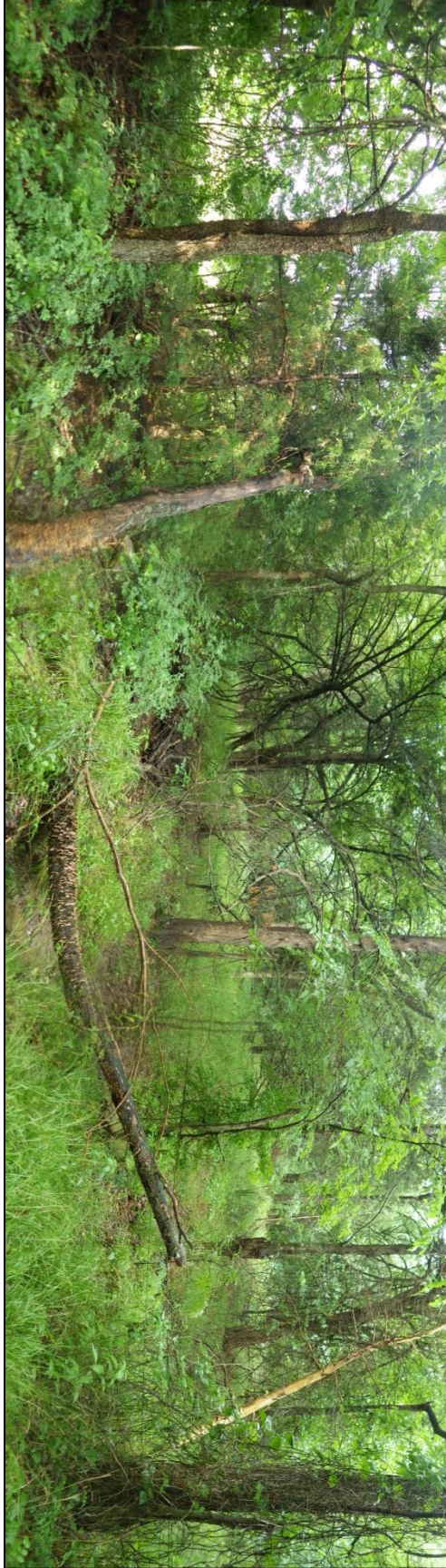
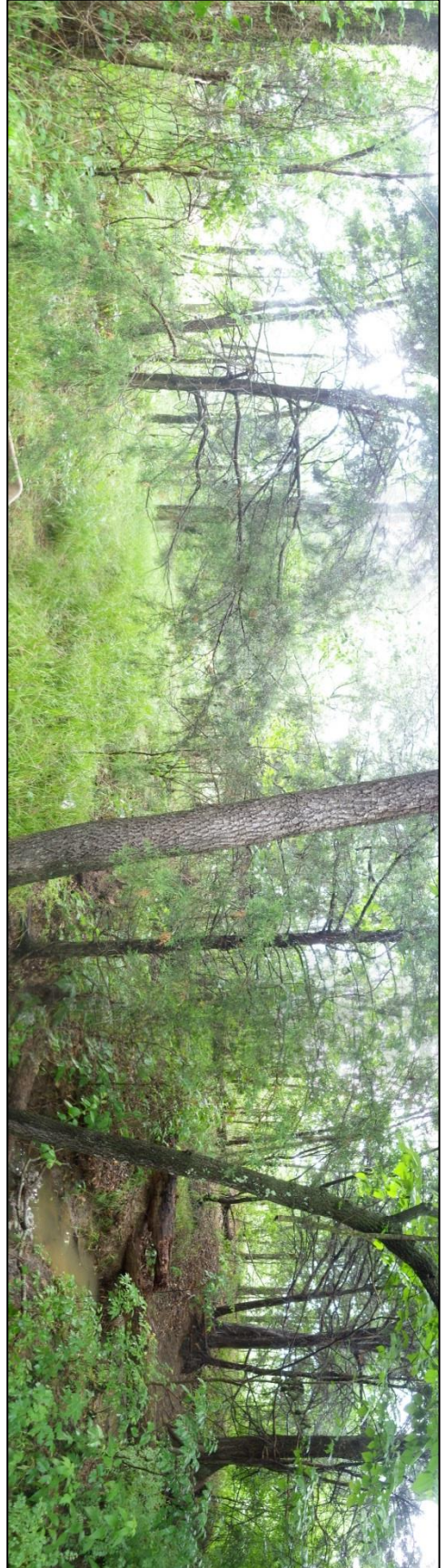


Figure B-12. Top: View from west end of Proposed Culvert 1, facing west.  
Bottom: View from east end of Proposed Culvert 1, facing east.



Figure B-13. Top: View from west end of Proposed Culvert 3, facing west.  
Bottom: View from east end of Proposed Culvert 3, facing east.

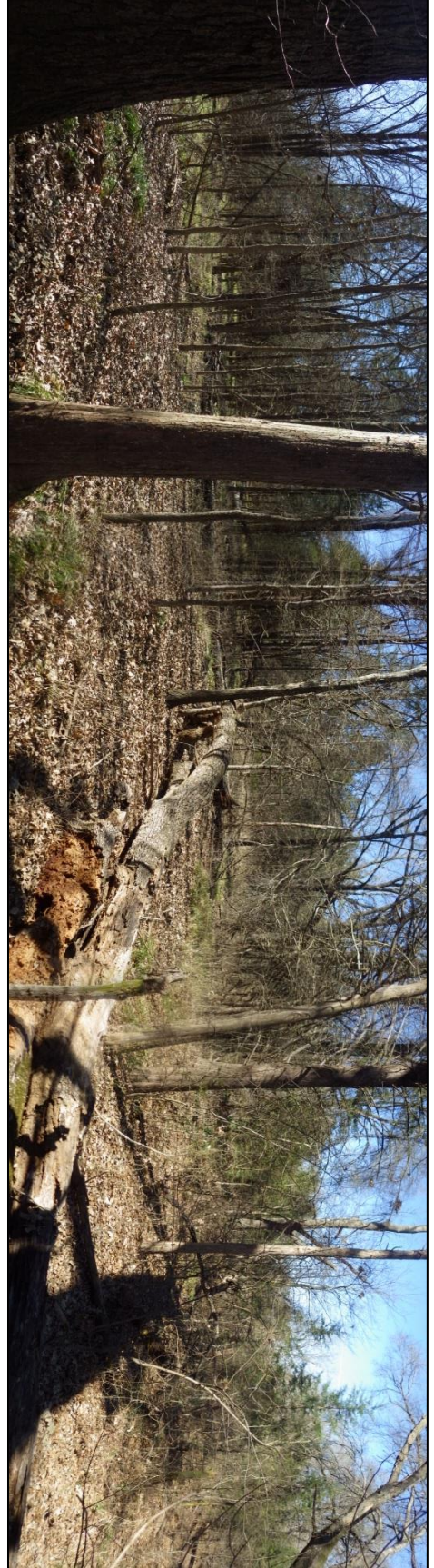


Figure B-14. Top: View from west end of Proposed Culvert 4, facing west.  
Bottom: View from east end of Proposed Culvert 4, facing east.

**APPENDIX C**  
**GENERAL PROJECT SHOVEL TEST DESCRIPTIONS**

| RST # | Depth (cmbs)            | Description  | Study Area | Comments/ Artifacts |
|-------|-------------------------|--|------------|---------------------|
| 1-1   | 0-15<br>15-40           | Dark grayish brown (10YR4/2) loam<br>Yellowish red (5YR4/6) clay mottled with 40% gray (10YR5/1) clay  | 1          | None                |
| 1-2   | 0-20<br>20-30           | Yellowish brown (10YR5/4) silty sand<br>Dark brown (7.5YR3/2) clay mottled with 20% yellowish red (5YR4/6) clay  | 1          | None                |
| 1-3   | 0-10<br>10-30           | Dark grayish brown (10YR4/2) loam<br>Yellowish red (5YR4/6) clay mottled with 30% gray (10YR5/1) clay  | 1          | None                |
| 1-4   | 0-50<br>50-55           | Dark yellowish brown (10YR3/6) sandy clay<br>Dark brown (7.5YR3/2) clay  | 1          | None                |
| 1-5   | 0-35<br>35-<br>125*     | Dark grayish brown (10YR4/2) silty clay mottled with 50% strong brown (7.5YR5/6) silty clay<br>Dark gray (10YR4/1) dry silty loam mottled with 50% gray (10YR5/1) dry silty loam   | 1          | None                |
| 1-6   | 0-30<br>30-40           | Dark brown (10YR3/3) clay<br>Dark yellowish brown (10YR4/4) clay   | 1          | None                |
| 1-7   | 0-80*                   | Dark gray (10YR4/1) clay   | 1          | None                |
| 1-8   | 0-70*                   | Dark gray (10YR4/1) clay   | 1          | None                |
| 1-9   | 0-60                    | Dark grayish brown (10YR4/2) clay  | 1          | None                |
| 1-10  | 0-50                    | Very dark gray (10YR3/1) clay  | 1          | None                |
| 1-11  | 0-50                    | Dark yellowish brown (10YR4/4) sandy clay loam   | 1          | None                |
| 1-12  | 0-68<br>68-75<br>75-80  | Dark olive brown (2.5Y3/3) sand<br>Dark yellowish brown (10YR4/4) compact sand<br>Dark brown (10YR3/3) very sandy clay   | 1          | None                |
| 1-13  | 0-40<br>40-55           | Dark grayish brown (10YR4/2) loam<br>Black (10YR2/1) clay  | 1          | None                |
| 1-14  | 0-10<br>10-50           | Dark grayish brown (10YR4/2) clay<br>Brown (7.5YR4/2) clay mottled with 40% strong brown (7.5YR4/6) clay   | 1          | None                |
| 1-15  | 0-8<br>8-30             | Very dark grayish brown (10YR3/2) duff<br>Yellowish red (5YR4/6) clay mottled with 40% gray (10YR5/1) clay   | 1          | None                |
| 2-17  | 0-35<br>35-50<br>50-60  | Brown (10YR4/3) sandy loam<br>Reddish yellow (7.5YR6/6) compact sand<br>Yellowish red (5YR5/8) sandy clay  | 2          | None                |
| 2-30  | 0-10<br>10-30           | Brown (10YR4/3) sandy loam<br>Strong brown (7.5YR5/6) compact sandy clay mottled with 40% light brown (7.5YR6/4) compact sandy clay  | 2          | None                |
| 2-31  | 0-40<br>40-75<br>75-90  | Dark grayish brown (10YR4/2) silty loam<br>Light brownish gray (10YR6/2) silty clay mottled with 60% yellowish red (5YR5/8) silty clay<br>Yellowish red (5YR4/6) clay mottled with 30% grayish brown (10YR5/2) clay  | 2          | None                |
| 2-32  | 0-15<br>15-50<br>50-55  | Very dark grayish brown (10YR3/2) loam<br>Dark yellowish brown (10YR4/4) compact sand<br>Strong brown (7.5YR5/6) sandy clay  | 2          | None                |
| 2-33  | 0-45<br>45-80<br>80-110 | Yellowish brown (10YR5/4) silty clay loam mottled with 35% yellowish red (5YR5/6) silty clay loam<br>Light brownish gray (10YR6/2) silty loam mottled with 40% yellowish red (5YR5/8) silty loam<br>Gray (10YR5/1) silty clay mottled with 15% yellowish red | 2          | None                |

| RST # | Depth (cmbs)                       | Description   | Study Area | Comments/ Artifacts     |
|-------|------------------------------------|---|------------|-------------------------|
|       | 110-145                            | (5YR4/6) silty clay<br>Dark gray (10YR4/1) silty clay mottled with 25% reddish brown (5YR4/4) silty clay  |            |                         |
| 2-34  | 0-10<br>10-20<br>20-50<br>50-60    | Brown (10YR4/3) loam<br>Yellowish brown (10YR5/4) sandy loam<br>Light yellowish brown (10YR6/4) compact sand<br>Dark yellowish brown (10YR4/4) compact sandy clay   | 2          | None                    |
| 2-35  | 0-40<br>40-85<br>85-115<br>115-150 | Brown (10YR5/3) silty clay loam mottled with 30% yellowish red (5YR4/6) silty clay loam<br>Light brownish gray (10YR6/2) silty loam mottled with 40% yellowish red (5YR5/6) silty loam<br>Gray (10YR5/1) silty clay loam mottled with 20% yellowish red (5YR4/6) silty clay loam<br>Dark gray (10YR4/1) silty clay mottled with 30% reddish brown (5YR5/4) silty clay | 2          | None                    |
| 2-36  | 0-20<br>20-50<br>50-80             | Very dark grayish brown (10YR3/2) loam<br>Dark yellowish brown (10YR4/4) very sandy clay<br>Yellowish brown (10YR5/4) sandy clay  | 2          | None                    |
| 2-37  | 0-59<br>59-70                      | Very dark grayish brown (10YR3/2) clay loam<br>Brown (10YR5/3) sandy clay   | 2          | None                    |
| 2-38  | 0-55<br>55-100                     | Very dark grayish brown (10YR3/2) silty sand<br>Brown (10YR4/3) silty loam  | 2          | None                    |
| 2-39  | 0-25<br>25-65<br>65-150            | Very dark gray (10YR3/1) silty loam<br>Dark grayish brown (10YR4/2) silty loam<br>Grayish brown (10YR5/2) silty loam  | 2          | None                    |
| 2-40  | 0-5<br>5-15<br>15-25               | Very dark grayish brown (10YR3/2) loam<br>Brown (7.5YR4/4) sandy clay<br>Yellowish red (5YR4/6) clay  | 2          | None                    |
| 2-41  | 0-35<br>35-45                      | Brown (10YR4/3) silty loam<br>Light brown (7.5YR6/4) sandy clay   | 2          | None                    |
| 2-42  | 0-22<br>22-40                      | Light yellowish brown (10YR6/4) silty loam mottled with 40% brown (10YR5/3) silty loam<br>Yellowish red (5YR4/6) clay mottled with 30% brown (10YR5/3) clay   | 2          | None                    |
| 2-43  | 0-25<br>25-35                      | Brown (7.5YR4/4) sandy clay<br>Yellowish red (5YR4/6) clay  | 2          | None                    |
| 2-44  | 0-15<br>15-30                      | Yellowish brown (10YR5/4) silty sand<br>Strong brown (7.5YR4/6) sandy clay  | 2          | None                    |
| 2-49  | 0-18<br>18-40                      | Light gray (10YR7/2) silty loam mottled with 45% pale brown (10YR6/3) silty loam<br>Yellowish red (5YR4/6) clay mottled with 35% yellowish brown (10YR5/4) clay   | 2          | None                    |
| 2-52  | 0-5<br>5-30                        | Brown (7.5YR5/3) silty loam<br>Yellowish red (5YR5/6) silty clay mottled with 30% brown (7.5YR5/2) silty clay   | 2          | None                    |
| 3-1   | 0-32<br>32-40                      | Brown (7.5YR4/4) sandy loam<br>Brown (7.5YR5/4) loamy clay  | 3          | 10-20cm: 1 fence staple |
| 3-2   | 0-42<br>42-49<br>49-55             | Yellowish brown (10YR5/6) sandy loam<br>Light yellowish brown (10YR6/4) sandy (compact)<br>Strong brown (7.5YR5/8) sandy clay (compact)   | 3          | None                    |
| 3-3   | 0-35<br>35-44                      | Brown (7.5YR4/4) sandy loam<br>Yellowish red (5YR4/6) clay  | 3          | None                    |
| 3-4   | 0-25                               | Brown (7.5YR4/4) sandy loam   | 3          | None                    |

| RST # | Depth (cmbs)                       | Description   | Study Area | Comments/ Artifacts                   |
|-------|------------------------------------|---|------------|---------------------------------------|
|       | 25-32                              | Brown (7.5YR5/4) loamy clay   |            |                                       |
| 3-5   | 0-9<br>9-42<br>42-50               | Very dark grayish brown (10YR3/2) clay loam<br>Yellowish brown (10YR5/6) sandy loam<br>Reddish yellow (7.5YR6/6) compact sandy clay   | 3          | None                                  |
| 3-6   | 0-32<br>32-44                      | Brown (7.5YR4/4) sandy loam<br>Light brown (7.5YR6/4) loamy clay  | 3          | None                                  |
| 3-10  | 0-60<br>60-95<br>95-130<br>130-170 | Brown (7.5YR4/3) silty loam<br>Light brown (7.5YR6/4) loose sand<br>Brown (7.5YR4/4) fine sandy loam mottled with 35% pink (7.5YR7/3) fine sandy loam<br>Light brown (7.5YR6/4) coarse sand mottled with 30% brown (7.5YR4/3) and 20% very dark gray (7.5YR3/1) coarse sand             | 3          | None                                  |
| 3-11  | 0-55<br>55-110*                    | Brown (10YR4/3) silty sand<br>Dark yellowish brown (10YR4/4) fine silty sand  | 3          | None                                  |
| 3-12  | 0-13<br>13-20                      | Brown (7.5YR4/4) sandy loam<br>Yellowish red (5YR5/8) clay  | 3          | None                                  |
| 3-13  | 0-22<br>22-30                      | Brown (10YR5/3) sandy loam<br>Strong brown (7.5YR4/6) sandy clay mottled with 30% pinkish gray (7.5YR6/2) sandy clay  | 3          | None                                  |
| 3-18  | 0-38<br>38-50                      | Light brown (7.5YR6/4) loamy sand<br>Light brown (7.5YR6/4) sandy clay mottled with 30% yellowish red (5YR5/8) sandy clay   | 3          | None                                  |
| 3-19  | 0-7<br>7-25                        | Light brown (7.5YR6/4) loamy sand<br>Strong brown (7.5YR4/6) clay   | 3          | None                                  |
| 3-20  | 0-19<br>19-30                      | Yellowish brown (10YR5/4) compact sandy loam<br>Strong brown (7.5YR5/8) wet sandy clay (compact)  | 3          | None                                  |
| 4A-1  | 0-85<br>85-100                     | Yellowish brown (10YR5/4) sandy loam<br>Yellowish brown (10YR5/6) dry sandy clay mottled with 20% light brownish gray (10YR6/2) dry sandy clay  | 4A         | None                                  |
| 4A-2  | 0-30<br>30-38                      | Pale brown (10YR6/3) silty sand mottled with 40% grayish brown (10YR5/2) silty sand<br>Yellowish red (5YR4/6) clay  | 4A         | None                                  |
| 4A-3  | 0-38<br>38-45                      | Yellowish brown (10YR5/4) silty sand<br>Strong brown (7.5YR4/6) sandy clay  | 4A         | None                                  |
| 4A-4  | 0-20*                              | Reddish yellow (7.5YR6/6) loamy sand mottled with 10% strong brown (7.5YR5/8) sandy clay  | 4A         | None                                  |
| 4A-5  | 0-45<br>45-90<br>90-125            | Dark grayish brown (10YR4/2) fine sandy loam mottled with 35% gray (10YR5/1) fine sandy loam<br>Light brownish gray (10YR6/2) mottled with 45% strong brown (7.5YR5/6) compact loam<br>Very dark grayish brown (10YR3/2) sandy loam mottled with 50% grayish brown (10YR5/2) sandy loam | 4A         | None                                  |
| 4A-6  | 0-40<br>40-45                      | Reddish yellow (7.5YR6/6) loamy sand<br>Reddish yellow (7.5YR6/6) sandy clay mottled with 40% strong brown (7.5YR5/8) sandy clay and 10% gray (10YR5/1) sandy clay  | 4A         | 0-10 cmbs: 1 modern clear glass shard |
| 4A-7  | 0-45<br>45-75<br>75-80             | Yellowish brown (10YR5/4) fine silty sand<br>Light brownish gray (10YR6/2) very fine silty sand<br>Strong brown (7.5YR4/6) sandy clay   | 4A         | None                                  |
| 4A-8  | 0-25<br>25-32                      | Yellowish brown (10YR5/4) silty sand<br>Strong brown (7.5YR4/6) sandy clay  | 4A         | None                                  |

| RST # | Depth (cmbs)           | Description   | Study Area | Comments/ Artifacts  |
|-------|------------------------|---|------------|--|
| 4A-9  | 0-15<br>15-40          | Grayish brown (10YR5/2) loose loam<br>Yellowish red (5YR4/6) clay mottled with 35% reddish brown (5YR4/3) clay  | 4A         | None   |
| 8-1   | 0-18<br>18-52          | Brown (10YR5/3) loamy sand<br>Strong brown (7.5YR4/6) sandy clay loam   | 8          | None   |
| 8-2   | 0-34<br>34-50          | Brown (10YR4/3) sandy loam<br>Yellowish brown (10YR5/6) sandy clay  | 8          | None   |
| 8-3   | 0-46<br>46-53          | Dark grayish brown (10YR4/2) clay loam<br>Very dark gray (10YR3/1) clay   | 8          | None   |
| 8-4   | 0-60                   | Dark grayish brown (10YR4/2) loamy clay   | 8          | None   |
| 8-5   | 0-34<br>34-46          | Gray (10YR5/1) clay<br>Light gray (10YR7/2) clay  | 8          | 0-10cm:<br>modern brick<br>fragment                                |
| 8-6   | 0-26<br>26-40          | Very dark grayish brown (10YR3/2) clay<br>Strong brown (7.5YR5/6) thick sandy clay  | 8          | None   |
| 8-7   | 0-28<br>28-59<br>59-70 | Dark grayish brown (10YR4/2) hard, compact clay<br>Black (7.5YR2.5/1) clay loam, friable<br>Dark reddish brown (5YR2.5/2) sandy clay  | 8          | None   |
| 8-8   | 0-50                   | Olive yellow (2.5Y6/6) clay with 10% shell and calcium carbonate  | 8          | None   |
| 8A-1  | 0-15<br>15-30          | Very dark grayish brown (10YR3/2) loam<br>Yellowish red (5YR4/6) clay mottled with 25% yellowish brown (10YR5/4) clay   | 8A         | None   |
| 8A-2  | 0-40<br>40-55          | Very dark grayish brown (10YR3/2) loam<br>Yellowish red (5YR4/6) clay   | 8A         | None   |
| 8A-3  | 0-20<br>20-30          | Olive brown (2.5Y4/4) clay<br>Olive brown (2.5Y4/4) clay mottled with 30% dark gray (10YR4/1) clay  | 8A         | None   |
| 8A-4  | 0-35<br>35-43          | Olive brown (2.5Y4/4) coarse, sandy clay<br>Olive brown (2.5Y4/4) clay mottled with dark gray (10YR4/1) clay  | 8A         | None   |
| 8A-5  | 0-35                   | Black (7.5YR2.5/1) loam   | 8A         | None   |
| 8A-6  | 0-55                   | Very dark gray (10YR3/1) silty clay   | 8A         | None   |
| 8A-7  | 0-25<br>25-50          | Very dark grayish brown (10YR3/2) clay loam<br>Dark grayish brown (2.5Y4/2) clay  | 8A         | None   |
| 8A-8  | 0-35<br>35-60          | Very dark grayish brown (10YR3/2) silty clay<br>Dark grayish brown (10YR4/2) calcareous silty clay  | 8A         | None   |
| 8A-9  | 0-30<br>30-50          | Very dark grayish brown (10YR3/2) clay loam<br>Olive brown (2.5Y4/4) clay w/ concretions  | 8A         | None   |
| 12-1  | 0-45                   | Grayish brown (10YR5/2) clay  | 12         | None   |
| 12-2  | 0-11<br>11-30<br>30-40 | Brown (10YR4/3) clay<br>Dark yellowish brown (10YR4/4) clay mottled with 10% dark gray (10YR4/1) clay<br>Gray (10YR5/1) clay mottled with 10% dark yellowish brown (10YR4/4) and 20% strong brown (7.5YR5/8) clay | 12         | None   |
| 12-3  | 0-14<br>14-40          | Brown (10YR4/3) clay<br>Brown (10YR5/3) clay mottled with 20% light gray (10YR7/1) clay with 10% gravels  | 12         | None   |
| 12-4  | 0-13<br>13-32          | Dark grayish brown (10YR4/2) clay<br>Yellowish brown (10YR5/4) clay   | 12         | 10-20cm: 1<br>modern plastic<br>button, 1<br>modern clear<br>glass |



| RST # | Depth (cmbs)           | Description   | Study Area | Comments/ Artifacts |
|-------|------------------------|---|------------|---------------------|
| 12-5  | 0-5<br>5-50            | Dark yellowish brown (10YR4/4) clay<br>Yellowish brown (10YR5/4) clay mottled with 5% yellowish red (5YR4/6) and 20% light brownish gray (10YR6/2) clay   | 12         | None                |
| 12-6  | 0-7<br>7-21<br>21-38   | Dark grayish brown (10YR4/2) clay<br>Yellowish brown (10YR5/4) clay<br>Yellowish brown (10YR5/4) clay mottled with 30% strong brown (7.5YR4/6) clay   | 12         | None                |
| 12-7  | 0-47<br>47-52          | Brown (10YR5/3) clay<br>Brown (10YR5/3) clay mottled with 30% strong brown (7.5YR4/6) clay  | 12         | None                |
| 12-8  | 0-48                   | Brown (10YR5/3) clay  | 12         | None                |
| 12-9  | 0-25<br>25-35          | Very dark grayish brown (10YR3/2) friable clay loam<br>Dark olive brown (2.5Y3/3) clay  | 12         | None                |
| 12-10 | 0-28<br>28-40          | Very dark grayish brown (10YR3/2) dry clay loam<br>Dark olive brown (2.5Y3/3) dry clay  | 12         | None                |
| 12-11 | 0-47                   | Brown (10YR4/3) clay  | 12         | None                |
| 12-12 | 0-20<br>20-30          | Very dark grayish brown (10YR3/2) clay loam<br>Dark olive brown (2.5Y3/3) clay mottled with 30% very dark grayish brown (10YR3/2) clay  | 12         | None                |
| 12-13 | 0-10<br>10-30          | Very dark grayish brown (10YR3/2) dry clay mottled with 50% dark olive brown (2.5Y3/3) dry clay and some quartzite gravel<br>Dark grayish brown (2.5Y4/2) clay  | 12         | None                |
| 12-14 | 0-48                   | Brown (10YR5/3) clay  | 12         | None                |
| 12-15 | 0-33<br>33-48          | Dark grayish brown (10YR4/2) sandy clay<br>Dark grayish brown (10YR4/2) clay mottled with 20% red (2.5YR4/8) clay   | 12         | None                |
| 12-16 | 0-18<br>18-50          | Very dark grayish brown (10YR3/2) clay loam<br>Yellowish brown (10YR5/6) clay mottled with 10% strong brown (7.5YR5/8), 5% yellowish red (5YR4/6), and 5% gray (10YR5/1) clay   | 12         | None                |
| 12-17 | 0-26<br>26-42          | Dark grayish brown (10YR4/2) silty clay<br>Light brown (7.5YR6/4) clay w/ small grave concretions   | 12         | None                |
| 12-18 | 0-12<br>12-23<br>23-50 | Dark grayish brown (10YR4/2) clay loam<br>Strong brown (7.5YR4/6) clay mottled with 10% grayish brown (2.5Y5/2) and 5% 2.5YR4/6 clay<br>Gray (10YR5/1) clay mottled with 15% strong brown (7.5YR5/8) and 5% red (2.5YR4/8) clay | 12         | None                |
| 13-1  | 0-29<br>29-35          | Dark grayish brown (10YR4/2) loamy sand<br>Brown (10YR5/3) clay   | 13         | None                |
| 13-2  | 0-51<br>51-60          | Very dark grayish brown (10YR3/2) compact loam<br>Dark gray (10YR4/1) clay mottled with 15% dark yellowish brown (10YR4/6) clay   | 13         | None                |
| 13-3  | 0-18<br>18-30          | Dark grayish brown (10YR4/2) clay<br>Dark grayish brown (10YR4/2) clay mottled with 35% yellowish brown (10YR5/8) clay  | 13         | None                |
| 13-4  | 0-16<br>16-50          | Very dark grayish brown (10YR3/2) clay<br>Light olive brown (2.5Y5/4) clay  | 13         | None                |
| 13-5  | 0-50                   | Dark grayish brown (10YR4/2) silty clay   | 13         | None                |
| 13-6  | 0-50                   | Dark grayish brown (10YR4/2) clay   | 13         | None                |
| 13-7  | 0-60                   | Dark gray (10YR4/1) silty clay  | 13         | None                |
| 13-8  | 0-14<br>14-50          | Very dark grayish brown (10YR3/2) clay loam<br>Dark grayish brown (2.5Y4/2) thick clay  | 13         | None                |
| 13-9  | 0-50                   | Dark grayish brown (10YR4/2) clay   | 13         | None                |

| RST # | Depth (cmbs)              | Description  | Study Area | Comments/ Artifacts |
|-------|---------------------------|--|------------|---------------------|
| 13-10 | 0-16<br>16-36             | Very dark grayish brown (10YR3/2) silty clay<br>Light olive brown (2.5Y5/4) clay   | 13         | None                |
| 13-11 | 0-39                      | Very dark grayish brown (10YR3/2) sand   | 13         | None                |
| 22-1  | 0-50<br>50-85             | Very dark gray (10YR3/1) clay<br>Very dark grayish brown (2.5Y3/2) clay mottled with 20% very dark gray (10YR3/1) clay   | 22         | None                |
| 22-2  | 0-28<br>28-32             | Dark grayish brown (10YR4/2) clay<br>Dark grayish brown (10YR4/2) clay mottled with 20% reddish yellow (7.5YR6/6) clay   | 22         | None                |
| 22-3  | 0-75<br>75-100            | Very dark grayish brown (10YR3/2) clay<br>Black (10YR2/1) clay mottled with 10% very dark grayish brown (10YR3/2) clay   | 22         | None                |
| 22-4  | 0-30                      | Very dark grayish brown (10YR3/2) hard, compact clay   | 22         | None                |
| 22-5  | 0-85                      | Very dark gray (10YR3/1) compact clay  | 22         | None                |
| 22-6  | 0-50                      | Very dark grayish brown (10YR3/2) clay   | 22         | None                |
| 22-7  | 0-70<br>70-100            | Very dark gray (10YR3/1) clay<br>Black (10YR2/1) clay mottled with 30% very dark grayish brown (10YR3/2) clay  | 22         | None                |
| 22-8  | 0-50<br>50-85             | Very dark gray (10YR3/1) clay loam mottled with 40% black (10YR2/1) clay loam<br>Black (10YR2/1) compact clay  | 22         | None                |
| 22-9  | 0-75<br>75-110            | Black (10YR2/1) clay<br>Very dark gray (10YR3/1) clay mottled with 50% very dark grayish brown (10YR3/2) clay  | 22         | None                |
| 22-10 | 0-70<br>70-100            | Very dark gray (10YR3/1) clay loam<br>Black (10YR2/1) clay   | 22         | None                |
| 22-11 | 0-30                      | Dark grayish brown (10YR4/2) clay  | 22         | None                |
| 22-12 | 0-70<br>70-100            | Black (10YR2/1) clay<br>Very dark gray (10YR3/1) clay mottled with 45% very dark grayish brown (10YR3/2) clay  | 22         | None                |
| 22-13 | 0-19<br>19-25             | Very dark grayish brown (10YR3/2) clay<br>Very dark gray (10YR3/1) clay mottled with 10% very pale brown (10YR7/4) and 10% strong brown (7.5YR5/8) clay                        | 22         | None                |
| 22-14 | 0-40*                     | Black (10YR2/1) clay   | 22         | None                |
| 22-15 | 0-30                      | Dark grayish brown (10YR4/2) clay  | 22         | None                |
| 23-1  | 0-15<br>15-25             | Brown (7.5YR4/4) sandy clay<br>Yellowish red (5YR4/6) clay   | 23         | None                |
| 23-2  | 0-5<br>5-30               | Very dark gray (10YR3/1) duff<br>Yellowish red (5YR4/6) clay mottled with 50% dark yellowish brown (10YR4/4) clay  | 23         | None                |
| 23-3  | 0-20<br>20-35             | Very dark grayish brown (10YR3/2) fat clay<br>10% Brown (7.5YR4/4), 30% brown (7.5YR4/2), and 60% very dark gray (7.5YR3/1) fat clay   | 23         | None                |
| 23-4  | 0-115<br>115-165          | Dark grayish brown (10YR4/2) silty loam<br>Dark gray (10YR4/1) silty clay loam   | 23         | None                |
| 23-5  | 0-45                      | Very dark grayish brown (10YR3/2) clay loam  | 23         | None                |
| 23-6  | 0-75<br>75-120<br>120-160 | Dark grayish brown (10YR4/2) silty loam<br>Dark grayish brown (10YR4/2) silty loam mottled with 40% light brownish gray (10YR6/2) silty loam<br>Dark gray (10YR4/1) silty clay | 23         | None                |
| 23-7  | 0-28                      | Very dark grayish brown (10YR3/2) silty clay   | 23         | None                |

| RST # | Depth (cmbs)           | Description   | Study Area | Comments/ Artifacts |
|-------|------------------------|---|------------|---------------------|
|       | 28-35                  | Dark brown (10YR3/3) clay mottled with 50% dark yellowish brown (10YR4/6) clay  |            |                     |
| 23-8  | 0-35<br>35-40          | Very dark grayish brown (10YR3/2) silty clay<br>Dark yellowish brown (10YR4/6) clay mottled with 40% dark brown (10YR3/3) clay  | 23         | None                |
| 23-9  | 0-30<br>30-35          | Very dark grayish brown (10YR3/2) silty clay<br>Dark yellowish brown (10YR4/6) clay mottled with 30% dark brown (10YR3/3) clay  | 23         | None                |
| 27-1  | 0-10<br>10-20          | Very dark grayish brown (10YR3/2) silty loam<br>Brown (7.5YR4/4) silty clay   | 27         | None                |
| 27-2  | 0-20*                  | Very dark grayish brown (10YR3/2) clay mottled with 40% brown (7.5YR4/4) clay   | 27         | None                |
| 27-3  | 0-25<br>25-35          | Brown (10YR4/3) clay loam<br>Brown (10YR4/3) clay mottled with 40% strong brown (7.5YR4/6) clay   | 27         | None                |
| 27-4  | 0-20<br>20-25          | Very dark grayish brown (10YR3/2) clay loam<br>Dark grayish brown (10YR4/2) clay  | 27         | None                |
| 27-5  | 0-25<br>25-35          | Dark yellowish brown (10YR4/4) silty loam<br>Strong brown (7.5YR4/6) sandy clay mottled with 20% dark yellowish brown (10YR4/4) sandy clay  | 27         | None                |
| 27-6  | 0-25<br>25-30          | Brown (10YR4/3) silty loam<br>Strong brown (7.5YR4/6) clay  | 27         | None                |
| 27-7  | 0-20<br>20-30          | Very dark grayish brown (10YR3/2) silty loam<br>Brown (10YR4/3) silty clay  | 27         | None                |
| 27-8  | 0-40<br>40-65*         | Dark brown (10YR3/3) silty loam<br>Yellowish brown (10YR5/4) compact fine silty sand  | 27         | None                |
| 27-9  | 0-15<br>15-35*         | Very dark grayish brown (10YR3/2) loam<br>Brown (10YR4/3) silty sand  | 27         | None                |
| 27-10 | 0-50*                  | Very dark grayish brown (10YR3/2) silty clay  | 27         | None                |
| 27-11 | 0-15<br>15-30          | Brown (10YR4/3) silty loam<br>Yellowish red (5YR4/6) clay   | 27         | None                |
| 27-12 | 0-15<br>15-30          | Brown (10YR4/3) sandy clay<br>Very dark grayish brown (10YR3/2) clay mottled with 20% brown (10YR4/3) clay  | 27         | None                |
| 27-13 | 0-5<br>5-30<br>30-35   | Very dark brown (10YR2/2) sandy loam<br>Dark yellowish brown (10YR4/4) silty sand<br>Yellowish red (5YR4/6) sandy clay mottled with 40% dark yellowish brown (10YR4/4) sandy clay         | 27         | None                |
| 27-14 | 0-10<br>10-25<br>25-35 | Very dark grayish brown (10YR3/2) sandy loam<br>Dark yellowish brown (10YR4/4) silty sand<br>Yellowish red (5YR4/6) sandy clay mottled with 20% dark yellowish brown (10YR4/4) sandy clay | 27         | None                |
| 27-15 | 0-45<br>45-55          | Very dark grayish brown (10YR3/2) silty clay<br>Yellowish brown (10YR5/4) clay  | 27         | None                |
| 27-16 | 0-10<br>10-60<br>60-85 | Very dark grayish brown (10YR3/2) loam<br>Brown (10YR4/3) silty sand<br>Dark yellowish brown (10YR4/4) fine sand  | 27         | None                |
| 27-17 | 0-70<br>70-110         | Dark brown (10YR3/3) loam<br>Dark yellowish brown (10YR4/4) sand  | 27         | None                |
| 27-18 | 0-15<br>15-35          | Black (10YR2/1) loam<br>Dark yellowish brown (10YR4/4) clay   | 27         | None                |
| 27-19 | 0-20<br>20-30          | Dark yellowish brown (10YR4/4) silty sand<br>Yellowish red (5YR4/6) compact clay  | 27         | None                |

| RST # | Depth (cmbs)           | Description   | Study Area | Comments/ Artifacts    |
|-------|------------------------|---|------------|------------------------|
| 27-20 | 0-10<br>10-20<br>20-35 | Very dark grayish brown (10YR3/2) loose very sandy loam<br>Brown (7.5YR4/4) silty sand<br>Yellowish red (5YR4/6) clay   | 27         | None                   |
| 27-21 | 0-20<br>20-30          | Dark yellowish brown (10YR4/4) silty sand<br>Yellowish red (5YR4/6) clay  | 27         | None                   |
| 27-22 | 0-20<br>20-30          | Brown (10YR5/3) compact very sandy loam<br>Strong brown (7.5YR4/6) compact clay   | 27         | None                   |
| 27-23 | 0-20<br>20-35          | Dark yellowish brown (10YR4/4) silty sand<br>Yellowish red (5YR4/6) sandy clay mottled with 30% dark yellowish brown (10YR4/4) sandy clay                           | 27         | None                   |
| 27-24 | 0-15<br>15-35          | Dark yellowish brown (10YR3/4) silty loam<br>Dark brown (7.5YR3/2) clay mottled with 30% dark brown (7.5YR3/4) clay and 10% dark reddish brown (5YR3/4) clay        | 27         | None                   |
| 27-25 | 0-20<br>20-30          | Brown (10YR4/3) silty sand<br>Strong brown (7.5YR4/6) clay mottled with 30% brown (10YR4/3) clay  | 27         | None                   |
| 27-26 | 0-30<br>30-45          | Brown (10YR4/3) clay loam mottled with 40% very dark grayish brown (10YR3/2) clay loam<br>Dark yellowish brown (10YR3/4) clay mottled with 10% brown (10YR4/3) clay | 27         | Pea-sized gravel; none |
| 27-27 | 0-25<br>25-35          | Dark brown (10YR3/3) clay loam<br>Yellowish red (5YR4/6) clay mottled with 30% dark yellowish brown (10YR4/4) clay  | 27         | None                   |
| 27-28 | 0-25<br>25-45          | Very dark grayish brown (10YR3/2) clay loam<br>Dark yellowish brown (10YR3/4) clay mottled with 40% black (10YR2/1) clay  | 27         | None                   |
| 27-29 | 0-35                   | Strong brown (7.5YR4/6) clay mottled with 20% dark brown (7.5YR3/2) clay  | 27         | None                   |
| 27-30 | 0-40<br>40-45          | Brown (7.5YR4/2) clay<br>Brown (7.5YR4/2) clay mottled with 30% very dark grayish brown (10YR3/2) clay  | 27         | None                   |
| 27-31 | 0-15<br>15-30          | Brown (7.5YR5/4) sandy loam<br>Yellowish red (5YR5/8) sandy clay  | 27         | None                   |
| 27-32 | 0-5<br>5-20            | Brown (10YR4/3) loam<br>Strong brown (7.5YR4/6) clay mottled with 40-percent brown (10YR4/3) clay   | 27         | None                   |
| 27-33 | 0-40<br>40-45          | Light brown (7.5YR6/3) loamy sand<br>Brown (7.5YR4/3) clay  | 27         | None                   |
| 27-34 | 0-35<br>35-40          | Brown (7.5YR4/4) loamy sand<br>Yellowish red (5YR5/6) clay  | 27         | None                   |
| 27-35 | 0-20<br>20-30          | Brown (10YR4/3) loam<br>Strong brown (7.5YR4/6) clay  | 27         | None                   |
| 27-36 | 0-35<br>35-40          | Brown (7.5YR4/4) loamy sand<br>Yellowish red (5YR5/6) clay  | 27         | None                   |
| 27-37 | 0-25<br>25-30          | Brown (7.5YR4/4) loamy sand<br>Yellowish red (5YR5/6) clay  | 27         | None                   |
| 27-38 | 0-8<br>8-10            | Brown (7.5YR4/4) loamy sand<br>Yellowish red (5YR5/6) clay  | 27         | None                   |
| 27-39 | 0-75<br>75-80          | Strong brown (7.5YR4/6) sandy loam<br>Strong brown (7.5YR5/6) sandy clay  | 27         | None                   |
| 27-40 | 0-40<br>40-50          | Brown (10YR4/3) silty sand<br>Dark yellowish brown (10YR4/4) sandy clay   | 27         | None                   |
| 27-41 | 0-50                   | Brown (10YR4/3) silty sand  | 27         | None                   |

| RST # | Depth (cmts)   | Description  | Study Area | Comments/ Artifacts |
|-------|----------------|--|------------|---------------------|
|       | 50-60          | Strong brown (7.5YR4/6) clay   |            |                     |
| 27-42 | 0-38<br>38-42  | Brown (10YR4/3) sandy loam<br>Yellowish brown (10YR5/4) clay loam  | 27         | None                |
| 27-43 | 0-20<br>20-30  | Dark grayish brown (10YR4/2) sandy loam<br>Dark grayish brown (10YR4/2) sandy clay mottled with 20% dark yellowish brown (10YR4/4) and 10% very dark gray (10YR3/1) sandy clay | 27         | None                |
| 27-44 | 0-40<br>40-75* | Brown (7.5YR4/4) mottled with 40% dark brown (7.5YR3/2) silty loam<br>Strong brown (7.5YR4/6) mottled with 20% brown (7.5YR4/4) silty clay                                     | 27         | None                |
| 27-45 | 0-45*          | Dark brown (7.5YR3/2) mottled with 30% brown (7.5YR4/3) compact silty clay   | 27         | None                |
| 27-46 | 0-60           | Dark brown (7.5YR3/2) mottled with 30% brown (7.5YR4/4) compact silty clay   | 27         | None                |
| 27-47 | 0-35<br>35-80* | Brown (7.5YR4/4) silty loam<br>Brown (7.5YR4/4) mottled with 40% dark brown (7.5YR3/2) fine silty clay   | 27         | None                |

\*Terminated due to excessive roots.

**APPENDIX D**  
**ARTIFACT SPECIMEN INVENTORY**

| Site    | Surface Point | ST#  | Depth (cmbs) | Excavator/Collector | Date Collected | Lot # | Catalog #   | Specimen # | TARL Superclass          | TARL Class       | Detailed Analysis  | Count | Weight (g) | Interpretations/References   |
|---------|---------------|------|--------------|---------------------|----------------|-------|-------------|------------|--------------------------|------------------|--|-------|------------|--|
| 41FN254 |               | 2-26 | 20-30        | JM                  | 9/1/2016       | 1     | 41FN254-1.1 | 1          | Chipped Stone            | Debitage         | 1 CQz S chip   | 1     | 0.92       |  |
| 41FN254 |               | 2-22 | 20-30        | JS                  | 8/31/2016      | 2     | 41FN254-2.1 | 1          | Chipped Stone            | Debitage         | 2 Ch S flakes  | 2     | 0.77       |  |
| 41FN254 |               | 2-23 | 50-60        | JT                  | 8/31/2016      | 3     | 41FN254-3.1 | 1          | Chipped Stone            | Debitage         | 1 Ch I flake   | 1     | 0.69       |  |
| 41FN254 |               | 2-19 | 30-40        | JT                  | 8/31/2016      | 4     | 41FN254-4.1 | 1          | Native American Ceramics | Utility Ware     | 1 body sherd with coarse paste, bone temper, and smoothed interior and exterior (thickness: 9.5mm)                                   | 1     | 8.79       |  |
| 41FN254 |               | 2-19 | 30-40        | JT                  | 8/31/2016      | 4     | 41FN254-4.2 | 2          | Chipped Stone            | Debitage         | 1 Ch S flake   | 1     | 0.79       |  |
| N/A     | IO2           |      | Surface      | JS                  | 8/30/2016      | 1     | IO2-1.1     | 1          | Glass                    | Container/Vessel | 1 "coke-bottle" green bottle embossed with "Coca-Cola/TRADEMARK REGISTERED/BOTTLE PAT. D-105529/MIN. CONTENTS 6-FL. OZS///PARIS TEX" | 1     | 99.41      | Patented August 3, 1937; expired August 3, 1951 (Lockhart and Porter 2010) |
| N/A     | IO1           |      | Surface      | JS                  | 8/29/2016      | 1     | IO1-1.1     | 1          | Glass                    | Container/Vessel | 1 clear base shard with embossed "MFG. CO/SAND SPRING OKLA/ AUG 1915" with a double valve mark                                       | 1     | 65.87      | Likely Kerr Glass Fruit Jar (Whitten 2014)                                 |